MEDICAL.

REPORT OF THE PRINCIPAL CIVIL MEDICAL OFFICER AND INSPECTOR-GENERAL OF HOSPITALS FOR 1904.

I HAVE the honour to submit for the information of Government the Administration Report of the Medical Department for the year 1904 with the usual statistical tables.

I was on leave of absence from the 12th August, 1904, until the end of the year, during which period Dr. C. T. Griffin, Assistant Principal Civil Medical Officer, performed my duties.

SECTION I.—POPULATION; BIRTH- AND DEATH-RATES.

2. The estimated population of the Island on the 31st December, 1904, was 3,812,931, exclusive of the military and shipping population. 145,253 births were registered and 93,940 deaths. The birth-rate was 38·6 per mille as against 40·0, and the death-rate 24·9 per mille as against 25·9 for the previous year, calculated on the estimated population at the middle of the year.

SECTION II.—PUBLIC HEALTH.

3. The public health during 1904 was good. Outbreaks of serious epidemic disease were few, and there was no case of cholera which originated in the Island; such a freedom from this disease has only occurred once before, viz., in the year 1899.

4. *The chief infectious diseases.*—

	Cholera.		Smallpox.		Malaria.		Enteric Fever.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1903	46	23	29	5	4,766	108	358	71
1904	7	4	10	2	5,288	75	341	70

5. *Cholera.*—In the above table the most noteworthy figures are those relating to cholera. It has been said above that there was no case of cholera that originated in the Island, but in November the ss. "Torridge" arrived in Colombo Harbour from Bassein (Burma) with cholera among the European crew. The vessel had taken in drinking water from the river on its departure from Bassein, and on the day before its arrival at Colombo three of the crew were seized with cholera: one died on the vessel reaching Colombo and was taken out to sea for burial; the remaining two cases were landed and sent to the Infectious Diseases Hospital, Colombo. During the following two days four more cases developed on the ship, which was in strict quarantine; these were admitted into the Infectious Diseases Hospital, of whom three died. The rest of the crew were sent to the segregation camp at Ragama, where they remained for five days, during which time the vessel was thoroughly disinfected by sulphur dioxide gas generated in a Clayton's apparatus. One of the crew segregated at Ragama developed the disease. On the ship there was a total of seven seizures, with four deaths. Cholera was not epidemic at any of the South Indian ports during the year, to which fact, together with the precautions against the introduction of infectious disease in vogue here, may be attributed the freedom from this disease.

6. *Smallpox.*—There were ten cases of this disease treated in various parts of the Island; they were widely distributed, viz., five in the Western, one in the Eastern, one in the Northern, and three in the Central Provinces. In every instance, except in the case reported from the Northern Province, the victims were recent arrivals from India, and two were unvaccinated. There were two deaths (one vaccinated, one unvaccinated). In no instance did the disease spread to others.

7. *Malarial fever.*—There were two distinct and serious epidemics of this disease, one at Mutwal, Colombo, and the second at Mahara jail.

His Excellency the Governor appointed a Commission to inquire into the outbreak at Mutwal, consisting of the Principal Civil Medical Officer, Dr. Chalmers, Dr. Castellani, Dr. Philips, and Mr. Skelton (the Municipal Engineer). This Commission found many insanitary areas with favourable breeding grounds for mosquitoes, and they made recommendations to rectify these defects. After many fruitless searches a few mosquitoes of the anophiline variety were found.

Quinine was widely distributed free among the residents of the locality, and towards the close of the year the epidemic ceased. At the Mahara jail there was no insanitary condition found, but the site of the jail is surrounded by rice fields. After diligent search a few specimens of the Anophilinæ were found of the "Barbirostris" variety, which is said to be innocent. It is a remarkable fact that malarial fever was not unusually prevalent in the villages surrounding the jail, and that the jail officers and prisoners were the first attacked, the families of the former subsequently. The death-rate in both these epidemics was very low.

In addition to the presence of the Anophilinæ in both these outbreaks, a circumstance in common was the fact that excavations were in progress in their vicinity. At Mutwal the excavation was a recent work; at Mahara it was connected with the quarrying for stone, which has been carried out for many years. When Mahara was first used as a penal settlement malarial fever was very common, but for many years until 1904 the disease was practically unknown. I am unable to advance any theory to account for this. The outbreak at Mahara ceased towards the close of the year.

In 1904 there were 5,288 cases of malarial fever, with 75 deaths, treated in the various hospitals; the number treated at the outdoor dispensaries are not included. Last year the number was 4,766 cases, with 108 deaths.

The Western Province heads the list as regards numbers; then come the North-Western, Central, Uva, North-Central, Northern, Sabaragamuwa, Eastern, and Southern Provinces. The percentage of deaths to those attacked was 1·41, and the type of the disease was represented by—

Quotidian ...	1,869 with 18 deaths	Type undiagnosed ...	503 with 6 deaths
Tertian ...	975 with 5 deaths	Remittent ...	315 with 31 deaths
Quartan ...	1,312 with 8 deaths	Pernicious ...	1 with 1 death
Irregular ...	513 with 6 deaths		

A large number of deaths are returned as being due to malarial cachexia, viz., 424 out of 3,796 admitted for this disease. This heading "Malarial Cachexia" is misleading, because many of the so-called cases of malarial cachexia are due to anchylostomiasis.

At my suggestion the Government deputed Dr. A. J. Chalmers to visit the Jaffna Peninsula and to make a report on the feasibility of reducing the yearly sick rate from malaria in that part of the Island of Ceylon. Dr. Chalmers spent some time in examining the country and sent in a long and valuable report, in which he pointed out that the area to be dealt with should be the western, which measures 128¼ square miles, and contains a population of 160,000 inhabitants. He estimates the cost of an anti-malaria campaign for this area at Rs. 90,000 for the first year and Rs. 21,000 for the second year, a total of Rs. 111,000, which renders its fulfilment impossible. But the report contains many useful suggestions for the combating of this disease at a moderate expenditure, such as the proper distribution of free quinine and the improvement of sanitation in individual dwellings, which will be followed out in the future as far as it is practicable to do so.

8. *Enteric fever.*—With regard to enteric fever, it is satisfactory to note that the number of cases treated was less than in the year previous. The number of cases of this disease treated in the several hospitals was 341, with 70 deaths, a death-rate of 20·52 per cent. Of the total cases reported from the various stations, 246, with 49 deaths, occurred in the Colombo hospitals, as against 251 with 52 deaths in 1903, a death-rate percentage of 19·91.

In the jails of the Colombo District, including Mahara, there were 17 cases; last year the number was 23 (the jail cases are not included in the table of totals mentioned at the beginning of this paragraph). There were 26 cases, with 3 deaths, a death-rate of 11·53 per cent. In every instance of the occurrence of enteric fever in the jails great pains were taken to trace the infection, which in the majority of the cases was satisfactorily accomplished and the necessary steps taken to prevent the further spread of the disease.

Other Diseases.

9. *Dysentery.*—At the various Government hospitals 2,111 cases of dysentery were treated, with 478 deaths. The largest number of cases occurred in the Western Province; then came the Central, Sabaragamuwa, Uva, and North-Western Provinces; the smallest number was reported from the Eastern Province. The total number treated and the deaths were considerably less than in 1903.

A like improvement in the sick and mortality rates for this disease was noticed in the jails throughout the Island. In the jails for the whole Island there were 589 cases admitted, with 19 deaths, a death-rate of 3·23 per cent. In the Colombo District the jails contributed 374 cases, as against 445 cases last year. Cholera belts or flannel shirts were issued to prisoners exposed to rain and wind, which, in my opinion, minimized the number attacked.

Dr. Castellani, the Director of the Bacteriological Institute, made some valuable observations into this disease and reported that there were various forms of dysentery in Ceylon; that the most frequent form was that due to the bacillus of Kruse, and a rare form to a bacillus nearly related to the Kruse-Shiga bacillus. Another form is represented by the presence of the Amœba histolytica, Schaudinn.

Dr. Castellani prepared some anti-dysentery vaccine in peptone water and used it in a few persons. His results so far seem to prove that (1) the introduction of the vaccine is harmless; (2) that from twenty-four to forty-eight hours after inoculation the blood of the subject agglutinates the bacillus dysentericus of Krause; (3) that the immunization passes off in a few weeks. Dr. Castellani has not finished his researches yet.

10. *Chickenpox.*—This disease is always present in various localities of Ceylon, but owing to its very low mortality it is more an inconvenience than a danger to the public health. Every precaution as far as possible is taken to prevent the spread of this disease, but, owing to its prevalence and to the large numbers who are constantly suffering from it, effective isolation is impossible.

11. *Measles.*—The number of persons attacked by this disease was very small. It did not assume alarming proportions in any district. The largest number attacked in any one institution was 45; this was at the Colombo Lunatic Asylum.

12. *Leprosy.*—There was a total of 289 cases of leprosy remaining at the Hendala Asylum on 1st January, 1904, and 155 cases were admitted during the year, giving a total of 444 treated during the year; of these, 58 were discharged and 58 died. At Kalmunai 35 cases were treated, 17 of whom were discharged and there were three deaths. As in former years, the largest number of admissions came from the Western Province (Colombo District); cases also came from the Southern, Central, Eastern, Northern, North-Western, and North-Central Provinces, and from Uva and Sabaragamuwa. From the Kalmunai and Batticaloa Districts, Eastern Province, 109 cases were reported. It is impossible to give an accurate estimate as to the total number of lepers in the Island, for there are many who are never reported at all, and others who are re-admitted into the Hendala Asylum after temporary discharge, and who are counted twice as admissions. It is sufficient here to state that I am convinced the accommodation in the Island is totally inadequate, and that if the Leper Ordinance is to be properly worked a very considerable increase in the amount of accommodation is necessary. In my report for last year I pointed out that at Hendala a large ward would be required for females, and that three new wards would be necessary for males. To date nothing has been done towards erecting these extra buildings. The question has to be decided whether the leper accommodation should be increased in the Eastern Province to meet the requirements of that district, where leprosy is prevalent, and thus establish a second large leper institution, or to increase the accommodation already asked for at Hendala. In favour of the latter is the fact that it would be less expensive to conduct this establishment greatly enlarged than to establish a similar institution in the

Eastern Province. Against this is the difficulty of the transport of lepers from the Eastern Province to Colombo and the objection the lepers of the Eastern Province have to be removed so far from their homes as Hendala entails. Some cases were reported to Government who were directed to be isolated in their own homes where this was practicable ; others in the non-contagious stage, are visited periodically by a Government Medical Officer. An interesting experiment was undertaken by Dr. Meier, the Superintendent of Hendala, by using some of Dr. Rost's leprolin serum on three cases, with very satisfactory results. Further observations could not be made owing to the fact that the serum cannot be obtained. The Indian Government are undertaking experiments to prove the real efficacy of Dr. Rost's serum and to standardize it before they supply it to the public.

13. *Anchylostomiasis.*—The number of cases of this disease treated at the Government hospitals has increased during the year under review by 162. In 1903 the number of admissions was 1,775 ; this year it is 1,937. Originally this disease was confined to Malabar coolies on estates, who bring the disease from India. It is therefore being constantly introduced with the batches of coolies who arrive daily. It is reported by most of the Medical Officers doing duty among the natives of the Island (who live on the confines of estates) that the disease is spreading among them. It is a matter of impossibility to check the spread so long as the conservancy arrangements regarding the disposal of sewage and in many cases the water supply of the estates remain as they are, and even if improved sanitary methods were introduced I fear the coolies, who are ignorant and naturally careless in their habits, would not adopt them. There are three means by which this intestinal worm disease could be combated, viz. :—

(*a*) Improved disposal of excreta and the prevention of re-infection.
(*b*) Pure water for drinking purposes.
(*c*) The segregation of all cases in hospital until all worms have been discharged from the body. To carry out these methods in their entirety is impracticable. Still some benefit might follow a scheme which would have these ends in view.

Towards the end of last year Sir Patrick Manson, K.C.M.G., communicated to the "British Medical Journal" a method for the prevention of the spread of this disease, which was to protect the skin of the legs and feet by some substance such as tar, which would make them impervious to water, the theory being that this disease is contracted in some cases by the organisms entering the body through the skin. The idea is a good one, but difficult to carry out among the cooly population.

The death-rate from this disease in 1904 to cases of the disease treated was 14·7 per cent. I do not think that this death-rate accurately represents the mortality from this disease, for many cases are returned as being due to malarial cachexia which really are due to anchylostomiasis. Under this heading should be mentioned that the Leisham-Donovan bodies have been demonstrated in Ceylon, and that many cases of anchylostomiasis and of so-called malarial cachexia are very likely cases of kala-azar.

14. *Diphtheria.*—It is important to mention that a few cases of this disease occurred during the year. It used to be said that this disease was not known in India and Ceylon, but there was no doubt about the correctness of the diagnosis in the cases that happened, as it was confirmed by bacteriological observation and experiment.

15. *Parangi.*—There were 3,501 cases of this disease treated, with 16 deaths, being 256 cases and 5 deaths over the number for 1903. The order in which the number of cases occurred by Provinces is the following : the North-Western Province is an easy first ; then come Uva, Eastern, Sabaragamuwa, Central, North-Central, Southern, Northern, and Western Provinces. It will be noted that the disease is more rife where the necessities of life are most difficult to obtain. As remarked in my report for last year, the increase in the number of cases is not in proportion to the increase of the population, and the ratio of those affected to the whole population is becoming less every year. I am a follower of Mr. Jonathan Hutchinson in the belief that parangi or yaws is syphilis, and I have instructed a few Medical Officers in selected places to treat their cases more rigorously with anti-syphilitic measures and report their results ; these results have not been received yet.

16. *Cancer.*—To follow out the instructions received from the Secretary of State the officers in charge of the medical institutions of this Colony for the third year sent in full reports of all cases of cancer and sarcoma treated therein. This information is primarily for the Committee of the Cancer Research Fund, but it is of interest generally. I am much indebted to Dr. A. J. Chalmers for the care he has taken in compiling the reports on cancer and phthisis from the various returns received.

The incidence of cancer.—There were 234 persons suffering from cancer who sought relief at the Government medical institutions out of a population of 3,812,931, which equals 1 in 16,200. The cases occurred among the following races :—

	Number.	Population.
Sinhalese	153	2,407,401
Tamils	42	566,764
Malabars	23	—
Moors	8	228,034
Burghers	6	24,157
Malays	1	11,902
Europeans	1	6,300
	234	

Sinhalese.—Sex : there were 88 male cases in 1,264,475 males = 1 : 14,100, and 65 female cases in 1,153,226 females = 1 : 17,700, *i.e.*, 1 female : 1·3 males. The average age was about 46 years.

Tamils.—Sex : there were 27 male cases in 290,072 males = 1 : 10,000, and 15 female cases in 276,792 females = 1 : 18,000, *i.e.*, 1 female : 1·8 males. Age : 51 to 60.

Burghers.—Sex : 3 male cases in 12,039 males = 1 : 4,000, and 3 female cases in 12,131 females also = 1 : 4,000. Age : 46 to 60.

As observed in previous years, in the Tamils the rate of cancer per unit is greater than in the Sinhalese, and in the Burghers the rate per unit is still greater than that in either Sinhalese or Tamils. Males suffer more than females in Ceylon, but the true number of females attacked may not be correct owing to the influence exerted by the Eastern habit of women avoiding public institutions to a great extent. For the last three years the number of cases of cancer has been very uniform :—

1902	226
1903	222
1904	234

Average, 227.

The regions of body affected were mostly—

(*a*) Parts connected with mastication ;
(*b*) Generative organs and breast.

The cases of sarcoma numbered 35 only out of a total population of over 3½ millions. These 35 cases occurred in—

Sinhalese	17
Tamils	14
Malabars	4

The sexes were equally represented. The larger number of cases occurred under thirty years of age.

17. *Phthisis.*—This year for the first time an attempt is made to ascertain the prevalence of phthisis in Ceylon ; the figures and particulars have been obtained from the special returns called for from the various medical institutions in the Island. The first set of returns was collected in 1903, with the following results. There was a total of 878 cases, being an incidence of 1 case to 4,200 of the total population.

1903.

Incidence in Race.

Sinhalese : 1 case in 5,300 persons.
Tamils (born in Ceylon) : 1 case in 3,400 persons.
Burghers : 1 case in 800 persons.

Incidence in Sex.

Sinhalese : 1 case in 4,200 males and 1 case in 7,400 females.
Tamils (born in Ceylon) : 1 case in 2,400 males and 1 case in 5,700 females.
Burghers : 1 case in 700 males and 1 case in 850 females

Incidence as regards Age.

Sinhalese : from 26 to 30 years.
Tamils : from 26 to 30 years.
Burghers : from 26 to 35 years.

The total number of cases in 1904 was 1,102, or in the proportion of 1 case in 3,400 of the total population :—

1904.

Incidence in Race.

Sinhalese : 1 case in 3,800 persons.
Tamils : 1 case in 3,200 persons.
Burghers : 1 case in 431 persons.

Incidence in Sex.

Sinhalese : 1 case in 2,900 males ; 1 case in 5,100 females.
Tamils : 1 case in 2,600 males ; 1 case in 4,600 females.
Burghers : 1 case in 429 males ; 1 case in 432 females.

Incidence as regards Age.

Sinhalese : from 25 to 30 years.
Tamils : from 26 to 30 years.
Burghers : from 26 to 45 years.

Distribution by Provinces.

Province.	Phthisis Rate.
Western	1 in 3,000
Central and North-Central	1 in 4,600
Northern	1 in 2,700
Sabaragamuwa	1 in 3,500
North-Western	1 in 4,100
Southern	1 in 7,500
Uva	1 in 2,700
Eastern	1 in 8,000

Remarks.—There is one case among Burghers for every three among Tamils and for every twelve among the Sinhalese. There are five times as many cases in Burghers per unit of the population as in Tamils, and seven times as many as in Sinhalese.

The total number of cases in proportion to the population is of course very small when compared with the ravages of this disease in Europe, and the figures for 1904 would suggest that there is an increase over 1903 ; but as this inquiry is a new one, it is possible the returns for 1903 were not so perfect as those for 1904. It is not possible to say yet if this disease is increasing.

There is no doubt that the moist heat of many parts of the Island is very favourable to the development of the bacillus of tubercle ; its growth is also encouraged by the ill-ventilated, overcrowded, and dark rooms of the habitations. It is a remarkable circumstance that males are more affected than females (in the Burgher race the two sexes are equally affected), because the women are more indoors and occupy the ill-ventilated and insanitary dwellings for more hours during the twenty-four than the men ; yet in the Sinhalese and Tamils there are many more men than women with the disease.

The climate of the Jaffna Peninsula has had the reputation for being suitable for cases of phthisis, and there is little doubt that the dry air and equable temperature of that part of the Island ought to benefit such cases ; yet, on referring to the phthisis rate as to Provinces, it will be seen that Jaffna and Uva head the list as to the incidence of the disease among the population. This is a remarkable fact, as both of these Provinces are influenced with regard to rainfall by one monsoon only, viz., the north-east. In the case of Jaffna the comparatively high rate of cases to population can hardly be influenced by the number of phthisical cases which go there for relief from other parts of the Island, for their number is very small.

18. Comparative statement of principal diseases for the last five years :—

Year.	Cases.	Deaths.
	Cholera.	
1900	814	456
1901	152	97
1902	179	116
1903	46	23
1904	7	4
	Smallpox.	
1900	252	42
1901	390	75
1902	146	35
1903	29	5
1904	10	2
	Chickenpox.	
1900	935	—
1901	1,762	6
1902	2,293	3
1903	1,862	4
1904	3,224	1
	Measles.	
1900	23	—
1901	44	—
1902	196	2
1903	20	—
1904	83	—
	Dysentery.	
1900	3,204	934
1901	4,177	1,543
1902	3,017	999
1903	2,384	658
1904	2,111	478

Year.	Cases.	Deaths.
	Enteric Fever.	
1900	224	77
1901	292	74
1902	243	63
1903	358	71
1904	341	70
	Leprosy.	
1900	635	43
1901	518	56
1902	483	48
1903	526	92
1904	532	68
	Anchylostomiasis.	
1900	1,336	273
1901	1,691	326
1902	1,609	257
1903	1,775	272
1904	1,937	286
	Parangi.	
1900	3,646	9
1901	3,117	12
1902	3,434	10
1903	3,254	10
1904	3,501	16
	Malarial Fever.	
1900	6,226	147
1901	5,665	89
1902	6,513	115
1903	4,766	108
1904	5,288	75

19. *Vaccination.*—During the year 145,098 subjects were vaccinated: 139,706 were primary vaccinations and 5,392 re-vaccinations. Of the former, 118,884 were successful and 12,946 unsuccessful, and in 7,876 subjects the result of the operation was not known, as they failed to present themselves for examination on the appointed days. The percentage of successful cases to total inspected was 90·17. Of the re-vaccinations, 3,446 were successful and 1,138 unsuccessful, and the result was not known in 808 cases, as the subjects failed to present themselves for inspection. The percentage of successful cases to total inspected was 75·66. Glycerinated calf lymph was supplied in sufficient quantities to all parts of the Island from the Central Calf Vaccine Depôt at Colombo.

The following table gives figures for 1903 and 1904 for comparison :—

Table.

Table showing the Primary and Re-vaccination in the Island during 1903 and 1904.

	1903.	1904.
Primary vaccination :—		
Number vaccinated	146,428	139,706
Successful ...	126,538	118,884
Unsuccessful	11,008	12,946
Unknown ...	8,882	7,876
Re-vaccination :—		
Number vaccinated	4,510	5,392
Successful ...	3,013	3,446
Unsuccessful	799	1,138
Unknown ...	698	808
Primary vaccination :—		
Percentage of successful to total inspected	91·99	90·17
Re-vaccination :—		
Percentage of successful to total inspected	79·03	75·66

[For Statement see page 6.]

20. *Precautions against the introduction of Plague.*—The same precautions as have been in vogue for many years past against the introduction of plague were continued. The Plague Committee held its fortnightly meetings. The aim of the Committee is to prevent the introduction of plague among the general community, and at the same time to hamper the merchants and the travelling public as little as possible with unnecessary and vexatious quarantine rules. This object was attained during the year. No case of plague was brought to the Island, but six vessels on which there were cases of illness which were suspicious of this disease were kept in strict quarantine. Cases of pneumonia arriving on a ship from a port infected with plague are watched with particular care.

During the year the Clayton sulphur dioxide disinfecting machine has been fixed to one of the harbour tugs, and it works well. It is a very valuable adjunct to the harbour equipment, both for infected vessels and for fire.

One of the Port Surgeons from the port of Colombo was sent to Bombay to study plague cases from their clinical aspect. He profited very much from the experience he gained, and the knowledge has been of much value to this Colony. The crusade against rats in Colombo has been continued.

21. *The Lunatic Asylum.*—The only Lunatic Asylum for the whole Island is in Colombo; it is divided into the Asylum proper and the House of Observation. For some years past this institution has been overcrowded, and the time has now arrived when the overcrowding is really serious. From time to time schemes of a temporary nature to meet the overcrowding have been proposed and

Table showing the Number of Persons vaccinated in the Island during 1903 and 1904.

	Primary Vaccination.									Re-vaccination.								
	Total Number of Cases vaccinated.	Number of Cases seen after Vaccination.			Percentage of Successful to Cases seen.	If in the Number of Cases absent and therefore unseen the Ratio be taken as in the Cases seen :			Total Number of Successful in Total of Cases vaccinated.	Total Number of Cases vaccinated.	Number of Cases seen after Vaccination.			Percentage of Successful to Cases seen.	If in the Number of Cases absent and therefore unseen the Ratio be taken as in the Cases seen :			Total Number of Successful in Total of Cases vaccinated.
		Successful.	Unsuccessful.	Total.		Successful.	Unsuccessful.	Total.			Successful.	Unsuccessful.	Total.		Successful.	Unsuccessful.	Total.	
1903.																		
Government Vaccinators ...	112,882	98,482	7,231	105,713	93·17	6,626	543	7,169	105,108	4,375	2,913	764	3,677	79·22	516	182	698	3,429
Medical Officers in Dispensaries ...	16,886	13,187	2,857	16,044	82·19	697	145	842	13,884	—	—	—	—	—	—	—	—	—
On Estates	16,660	14,869	920	15,787	94·17	820	51	871	15,687	135	100	35	135	74·07	—	—	—	—
Total ...	146,428	126,538	11,008	137,544	91·99	8,143	739	8,882	134,679	4,510	3,013	799	3,812	79·03	516	182	698	3,429
1904.																		
Government Vaccinators ...	107,662	92,500	8,770	101,270	91·33	5,491	901	6,392	979.991	5,043	3,241	994	4,235	76·52	519	289	808	3,760
Medical Officers in Dispensaries ...	16,194	12,755	2,857	15.612	81·69	458	124	582	13,213	—	—	—	—	—	—	—	—	—
On Estates	15,850	13,629	1,319	14,948	91·17	822	80	902	14,451	349	205	114	349	58·73	—	—	—	199
Total ...	139,706	118,884	12,946	131,830	90·17	6,771	1,105	7,876	125,655	5,392	3,446	1,108	4,584	75·66	519	289	808	3,959

considered, but the period for temporary relief is past, and some very material increase in accommodation will have to be faced and carried through. The total number of patients treated in the Asylum during 1904 was 666. The daily average number of patients was 516·34, and the daily average for males shows an increase of 15·64 and for females an increase of 12·33.

In the House of Observation 139 persons were admitted, which with 4 remaining from the previous year give a total of 143. But as the Asylum and the House of Observation are one building the figures must be taken together to gauge the strain that is put on the Superintendent to find room for the persons sent to him. It must be remembered that the Superintendent cannot turn people away, as might be done in time of overcrowding at an ordinary hospital; he is bound to find accommodation. The nominal accommodation is for 378 patients only, yet, with attendants and coolies who sleep in the dormitories, 403 male persons have to be lodged in a building estimated to contain 225; and 223 female persons in one whose capacity is estimated at 153.

To admissions the recovery rate was 32·91 per cent.; the percentage for males was 31·81 and for females 35·41. The deaths were 49, or 7·35 per cent. of the number treated. Tubercular affections were the cause of a large proportion of the deaths, and it should be remarked that the greatest number of the cases who died with evidence of tubercular disease were males, and that it is the male division in which the sleeping accommodation is so inadequate. There was one escape; he was brought back. There were no fatal injuries, nor any case of suicide.

The water supply to the Asylum is insufficient. It is sometimes difficult to obtain water from the pipes supplied to the upper floors, owing to want of pressure in the mains. This is not only a great inconvenience, but a source of danger in the event of fire. It is hoped that when the new reservoir of the Colombo Waterworks is finished the supply to the Asylum will be improved.

The industrial department continues to be a valuable adjunct in the working of this institution.

SECTION III.—METEOROLOGICAL CONDITION AND ITS RELATIONSHIP TO DISEASE.

22. For the purposes of this report it has been thought advisable to roughly divide the Island into eastern and western halves. The eastern half is that portion chiefly affected by the north-east monsoon; the western half is that portion mostly influenced by the south-west monsoon.

As in previous years, malaria is seen to follow the rule that it is more rife during and immediately after the rains, so that the cases of this disease are more numerous in the eastern half of the Island from October, reaching the maximum in January. In the western half malaria is more evident from the end of May to July, reaching the maximum in June. Dysentery and affections of the bowels and pulmonary complaints are most frequent during December, January, and February, when the chilly north-east wind is blowing.

SECTION IV.—GENERAL SANITARY CONDITION OF THE COLONY AND OF THE CHIEF TOWNS.

23. The general sanitary condition of the Island remains in much the same condition as last year. The same methods of disposal of dust and fœcal matter exist, and, though by no means satisfactory, are still far from bad when compared with other tropical countries. The water supply is often very good, and steps are being taken every year to remedy defects.

24. *Colombo.*—In this city there are two specially qualified Medical Officers of Health with a staff of Inspectors in the employment of the Municipality. The disposal of sewage is the same as it has been for some years past, viz., the collection of solid matters for burial at various depôts and the continuance of cesspits; the latter are being gradually filled and closed. Colombo has contributed the largest number of cases of enteric fever, and in most cases the origin of the disease has been traced to contaminated water or milk.

The scavenging of the town is defective; road sweepings and refuse are deposited over grass fields immediately outside the residential quarter; these harbour flies, which most likely carry infection. A proper cinerator or a series of cinerators should be erected by the Municipality for the destruction of all sweepings and refuse. The dust in Colombo is a nuisance and a danger; there is too little watering and sweeping of the streets and of the collection and removal of the dust.

Good progress has been made in the way of laying pipes for the Mansergh scheme of drainage. The water supply of Colombo is deficient, but this is in process of being remedied. On the whole, Colombo is healthy for a tropical city; much is being done in the way of improved sanitary measures, but a great deal is still required, *e.g.*, the question of overcrowding, the removal of insanitary areas, surface drains, and cesspits.

The Colombo lake is a perennial source of anxiety; it is practically a receptacle for sewage, and during drought its level falls a good deal, exposing offensive muddy sides. It is also the breeding ground for myriads of small irritating flies. My idea is that it should be drained and the area converted into an open space.

The notification of infectious diseases has been more satisfactory during the past year.

25. *Kandy.*—The general sanitary condition of Kandy requires considerable improvement, though every endeavour has been made in this direction during the year. Several cases of enteric occurred at Katukele. The drainage is in the same state as last year, and nothing has resulted from the scheme which was under consideration for its improvement. The water supply is pure and of good quality. The conservancy has been much improved, and several cesspits in crowded parts of the town have been closed. The crowded alleys have been specially inspected and reported on.

26. *Jaffna.*—This is the only town in the Northern Province where sanitation in any regular way is attended to. There is a Board of Health, but considering the importance of the capital of such an important populous Province a Local Board or Municipality should be established. The water supply is obtained from wells; it is hard and brackish. A scheme for a better supply has been estimated for, and is under the consideration of Government.

27. *Galle.*—This town is in a fairly sanitary condition. The improvement of the conservancy system in filthy suburbs is receiving the attention of the Municipality. The water supply is defective, but a new scheme is fairly started, and, it is hoped, will be completed in a couple of years.

28. *Batticaloa.*—The sanitary condition of this town is fairly satisfactory, but there is still much room for improvement. The drainage system requires improving, but this is a matter of some difficulty owing to the nature of the land, which is flat. The water supply obtained from wells is sufficient, but is in some places brackish, and the wells are apt to fail in the dry season.

29. *Kurunegala.*—The sanitary condition is not satisfactory. The drainage is very defective and the water supply is unsatisfactory, but it is said that a scheme for a better supply will be shortly taken in hand by the Local Board.

30. *Anuradhapura.*—The general sanitary condition of this town is good. The water supply, which is obtained from tanks, is abundant and wholesome. The drainage is imperfect.

31. *Badulla.*—The general sanitary condition is fairly satisfactory. The water supply is insufficient. The drainage is defective. Public latrine accommodation is deficient. The scavenging was satisfactorily done.

32. *Ratnapura.*—The drainage has been improved recently. The water supply is reported to be insufficient.

SECTION V.—GENERAL.

33. *Medico-legal duties.*—During the year 256 analyses were conducted, of which 136 were judicial, 38 were samples of kerosine oil, 9 were samples of fuel oil, and 27 were samples of water, spirits, eau-de-cologne, arrack, cinnamon oil, &c., from His Majesty's Customs, Local Boards, and the Railway Department, and 45 were samples of water conducted at the request of the Government. Of the 136 judicial analyses, 81 were undertaken for the detection of poisons and 55 for examination of stains. In the poisoning cases arsenic was detected in 7, strychnine in 3, mercury sulphide in 3, mercury sulphide and ganja in 1, mercury and ganja in 1, ganja in 10, opium in 1, datura in 2, lead in 1, croton oil in 1, sulphuric acid in 1, and kerosine oil mixed with sago in 1, and in the rest of the analyses no poisons were detected.

A synopsis of the analyses for the year in a tabular form is annexed herewith :—

Synopsis of the Analyses for 1904.

Total, 256. Fees, Rs. 1,932.	Judicial	136	55	Mammalian blood detected in ...	46
				Spermatozoa in	1
				No blood or seminal fluid in ...	8
			81	Arsenic detected in ...	7
				Strychnine in	3
				Mercury sulphide in ...	3
				Mercury sulphide and ganja in ...	1
				Mercury and ganja in ...	1
				Ganja in	10
				Opium in	1
				Datura in	2
				Lead in	1
				Croton oil in	1
				Sulphuric acid in	1
				Kerosine oil mixed with sago in ...	1
				No poisons in	49
					136
	Kerosine oil...				38
	Fuel oil				9
	Benzine				1
	Water, spirits, eau-de-cologne, &c., from His Majesty's Customs, Local Boards, and the Railway Department				27
	Analyses for Government purposes				45
				Total ...	256

Administrative Hospitals and Asylums.

34. The Government medical institutions are, as a rule, well built, either of stone or of brick, and contain large airy wards with plenty of cubic space and superficial area. The general type of hospital is an administration block in front with wards running at right angles to it connected by covered corridors. The buildings consist of a ground floor only, and they occupy a good deal of space. The roofs are of red tiles, and the floors of cement concrete. The beds are of wood with cane bottoms or of iron with copper spring mattresses ; bedside tables are provided, and the fittings and equipment are serviceable, and in some of the institutions fairly up to date. All the hospitals have separate accommodation for women, and at many of them there are isolation wards.

Operating rooms have been provided in many of the hospitals during the year and equipped with modern aseptic furniture. Accommodation is still lacking in some of the institutions for medical staff and nurses. Modern microscopes with oil immersion lenses have been supplied to many of the hospitals during the year.

There is a great need for a modern infectious diseases hospital in Colombo. The present establishment consists of a series of cadjan huts, which have been yearly patched up since they were originally erected over twenty years ago. Their only advantage is that for sanitary reasons, when necessary, they can be destroyed by fire without much loss of money, for it is quite impossible to disinfect them, and their rough interior walls are most unsuitable for infectious wards from a hygienic point of view. I hope in the near future that a permanent hospital for infectious diseases, on the pavilion plan and with accommodation for paying patients, will be provided.

35. *Native attendants.*—Male and female ward attendants are employed in the hospitals, who work under the directions of the nurses ; they perform their duties fairly satisfactorily, but it would be well if a better class of attendant could be induced to take up the work, which is only possible with a substantial increase of pay.

36. *Nursing in Ceylon hospitals.*—The nursing in the Ceylon hospitals is not entirely satisfactory. Some of the outstation hospitals have no nurses ; other hospitals are under-nursed.

The nursing staff consists of—

7	European qualified Matrons and Sisters.
24	European Roman Catholic Sisters (untrained).
3	European Anglican Sisters (untrained).
27	Matrons (trained locally).
38	Nurses (trained locally).

Five of the European qualified Sisters are employed in the paying section of the General Hospital, Colombo. One is the Matron of the Lady Havelock Hospital. The Roman Catholic Sisters perform nursing duties in the general wards of the Colombo Hospital and at Kurunegala. The Anglican Sisters are employed at the Kandy Hospital.

Two nursing schools for the training of young women exist at the Lady Havelock Hospital and at the Kandy Hospital. The length of the course is two years, after which a certificate of proficiency is given to those who pass a satisfactory examination. A new nursing home for pupil nurses was under construction at Kandy during the year.

37. During the year 1904 66 hospitals and asylums were in operation. The Field Hospital at Godakawela was closed on 15th February, 1904.

38. *Numbers treated.*—In the 32 Civil and Lying-in Home Hospitals there were 40,091 cases treated with 2,890 deaths, against 40,553 cases with 3,433 deaths in the previous year. The daily average sick was 1,560·03, as against 1,553·53 in 1903.

In the Field Hospitals there were 4,225 cases treated with 151 deaths, against 4,105 treated and 129 deaths during the previous year. The daily average sick was 174·94, against 179·59 in 1903. The number treated in the three Immigrant Hospitals was 1,471 with 73 deaths, against 1,318 cases with 63 deaths in 1903. The daily average sick was 67·17, against 60·71 in 1903.

In the twenty District Hospitals 12,739 cases were treated, against 13,081 in 1903. There were 1,574 deaths, against 1,859 in the preceding year. The daily average sick was 620·56, against 750·19 in 1903.

39. *Surgical operations.*—At the various hospitals throughout the Island 2,733 operations were performed, with 46 deaths.

The following is a summary of the operative work :—

	Cases.	Deaths.		Cases.	Deaths.
Amputations :—			Trephining of skull...	39	4
Upper extremities ...	75	1	Lithotomy suprapubic	5	—
Lower extremities ...	57	4	Laparotomy ...	14	3
Operations for cataract ...	66	—	Ovariotomy ...	23	1
Iridectomy ...	8	—	Hysterectomy ...	1	1
Radical cure for hernia ...	55	—	Eye operations ...	105	—
Radical cure for hydrocele	102	—	Other operations ...	2,165	32
Hepatic abscess ...	18	—			

40. *General Hospital, Colombo.*—The total number of patients treated at this institution during the year was 13,657 with 958 deaths, against 14,606 cases and 1,138 deaths in the previous year. Of the total treated, 421 remained from the previous year and 13,236 were new admissions, 12,254 were discharged, and there remained 445 under treatment at the end of the year. The daily average sick was 479·64, and the percentage of deaths to total treated was 7·01. The institution consists of twenty-five wards and eight solitary rooms, and the number of beds is 425. The new administration block with quarters for the medical and nursing staff was nearly completed at the end of the year.

41. *Paying section, General Hospital, Colombo.*—This consists of Planters' (4 wards with 4 beds), Anthonisz (2 wards with 2 beds), Passengers' (8 wards with 8 beds), Seamen's (3 wards with 26 beds), Clerical (1 ward with 2 beds) and Cargills' (2 wards with 2 beds). The total number of patients treated in these wards during 1904 was 575 with 56 deaths, against 523 cases and 55 deaths in 1903. Of the total treated, 20 remained from the previous year and 555 were new admissions, 494 were discharged, 56 died, and there remained 25 under treatment at the end of the year. The daily average sick was 28·54, against 26·34 in 1903, and the percentage of deaths to total treated was 9·5 against 10·51 in 1903. Two fully trained nurses and a matron were appointed and assumed duties in July.

42. *The Lunatic Asylum, Colombo.*—Please see remarks under Section II.

43. *House of Observation for suspected lunatics.*—There were four institutions of this nature, at Colombo, Kandy, Galle, and Jaffna, and into the first three were admitted for observation 260 patients, which with 10 remaining from the previous year made a total of 270, of whom 112 were transferred to the Asylum at Colombo, 142 were discharged, 7 died, and 9 remained at the end of the year. There were no admissions to the House of Observation at Jaffna.

44. *Leper Asylum, Hendala.*—Please see remarks under Section II.

45. *De Soysa Lying-in Home.*—The total number of patients treated at this institution during the year was 776, against 818 in 1903. Of these, 751 were discharged cured, 8 died, and 17 were remaining under treatment at the end of the year. The daily average sick was 16·9. The percentage of deaths to total treated was 1·3, against 2·12 in 1903. The popularity of the institution is daily increasing, especially with the Mohammedan patients, whose admission is increasing year by year. The number of admissions from this caste was 28.

In the Lying-in Home twenty-one pupil midwives received training in 1904, of whom thirteen obtained certificates after passing a satisfactory examination. A new scheme to train selected pupils from all Provinces has been adopted, and it is hoped that it will supply a long-felt want by the speedy introduction of European midwifery into the villages. Eleven pupils were trained and sent out during the year.

The following operations were performed during the year :—

Class.	Division.	Subdivision.		
Forceps ...	Difficult ...	Brow	2	
		Head	78	
	Complex ...	Face	1	
		Prolapse of cord with head and hand ...	3	
	Preternatural ... Compound ...	Head and hand	2	
			——	86
Forceps rotation	Difficult ...	Persistent occipito posterior ...	—	20
Version podalic	Complex ...	Placenta prævia	4	
		Transverse	13	
	Premature birth ...	Small head	11	
	Difficult ...	Flat pelvis	4	
			——	32

Class.	Division.	Subdivision.	
Craniotomy ...	Difficult ...	Hydrocephalus (head)	1
Embryotomy ...	Preternatural ...	Transverse	1
Evacuation of uterus ...	Abortion ...	Removal of placenta and ovum ...	18
Separation and removal of placenta ...	Complex ...	Morbidly adherent placenta ...	3
		Simple retention ...	2
Acceleration of labour by water bags	Complex ...	Placenta prævia	4
		Puerperal eclampsia	6
Suturing ...	Rupture	Cervical	11
		Perineal	8
Curetting after abortion and hydatidiform mole			2
		Total ...	194

46. *Lady Havelock Hospital.*—In this institution 1,159 patients were treated, against 1,137 in 1903. Thirty-two remained from the previous year, and 1,127 were new admissions. The daily average sick was 31·83. Of the total treated, 1,058 patients were discharged. There were 31 deaths, and 20 remained under treatment at the end of the year. Of the 1,159 patients, 322 were children (135 boys and 187 girls). There were forty-six operations performed, with one death. The number of cases of diseases peculiar to women was 166, as compared with 164 in 1903. The total number of Mohammedans was 28. There were 18 paying patients, as compared with 12 in 1903. Of these, nine were English, one German, two Burghers, one Tamil, and five Sinhalese.

47. *Police Hospital, Colombo.*—845 patients were treated in the Police Hospital, of whom 834 were discharged after treatment, 1 died, and 10 remained at the end of the year. The daily average sick was 11·87. At the outdoor dispensary of this hospital 1,800 persons were treated during the year, who paid 2,017 visits.

48. *Grenier Eye, Ear, and Throat Infirmary.*—At this institution 7,848 cases were treated during the year, against 6,602 in the previous year. The contributions of a purely voluntary nature amounted to Rs. 260·26. The work in connection with the Victoria Memorial Eye, Ear, and Throat Hospital made great progress during the year, and it is likely to be handed over to the Committee by the middle of 1905.

49. *Branch Hospitals.*—Colombo and Galle are provided with a special hospital for the treatment of women suffering from venereal diseases. The total number of new cases admitted was 292, which with 15 remaining from the previous year makes a total of 307. Of these, 289 were discharged, 3 died, and 15 remained at the end of the year. Of the 307 females treated in the two Branch Hospitals. 15 were treated for primary syphilis, 35 for secondary syphilis, 69 for tertiary syphilis, 3 for inherited syphilis, 153 for gonorrhœa, and the rest for other diseases. The patients seek voluntary admission.

50. *Jail Hospitals and sick prisoners.*—The number of prisoners admitted to different jails in the Island was 13,208. The average daily strength of prisoners was 2,821·21. The number treated in the Jail Hospitals during the year was 5,099, against 4,396 in the previous year. The total deaths numbered 70, against 73 in 1903.

Return of Diseases in Jail Hospitals for 1904.

Hospitals.	Dysentery.		Diarrhœa.		Malarial Fever		Enteric Fever.		Other Fevers.		Injuries.		Leprosy.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Welikada ...	11	—	25	—	7	—	—	—	—	—	1	—	—	—
Mahara ...	53	4	197	—	828	3	11	1	43	1	46	—	—	—
Negombo ...	29	1	111	5	41	1	—	—	1	—	3	—	—	—
Borella ...	281	12	349	3	174	—	12	2	34	1	54	—	6	—
Kandy ...	113	2	152	—	178	—	3	—	18	—	18	1	—	—
Nuwara Eliya	8	—	27	—	3	—	—	—	—	—	2	—	—	—
Jaffna ...	8	—	15	1	13	1	—	—	1	—	3	—	—	—
Galle ...	6	—	45	—	4	—	—	—	—	—	8	1	1	—
Matara ...	6	—	13	—	4	—	—	—	1	—	5	—	—	—
Tangalla ...	12	—	10	—	1	—	—	—	—	—	3	—	—	—
Batticaloa ...	6	—	5	2	10	—	—	—	—	—	3	1	—	—
Kurunegala ...	8	—	3	—	9	—	—	—	1	—	1	—	—	—
Anuradhapura	2	—	1	—	—	—	—	—	2	—	—	—	—	—
Badulla ...	7	—	3	1	5	—	—	—	—	—	—	—	—	—
Ratnapura ...	37	—	15	—	12	—	—	—	1	—	6	—	—	—
Kegalla ...	2	—	—	—	—	—	—	—	1	—	—	—	—	—
Total ...	589	19	971	12	1,289	5	26	3	103	2	153	3	7	—
Percentage of deaths	3·23		1·23		·38		11·53		1·94		1·30		—	

The following table gives the number of admissions, number of deaths, average strength, death-rate to admission to hospitals, and to average strength for the past four years :—

Year.	Admissions to Hospitals.	Number of Deaths.	Average Strength of Prisoners.	Death-rate to Admissions.	Death-rate per 1,000 of Average Strength.
1901 ...	4,638 ...	112 ...	2,752·71 ...	2·41 ...	40·69
1902 ...	5,363 ...	117 ...	2,656·40 ...	2·18 ...	44·05
1903 ...	4,396 ...	73 ...	2,784·00 ...	1·66 ...	26·21
1904 ...	5,099 ...	70 ...	2,821·21 ...	1·37 ...	24·81

51. *Kanatta Infectious Diseases Hospital.*—At this institution 20 cases of infectious diseases remained from the previous year and 720 were admissions, making a total of 740, as against 327 in 1903. Of these, 701 were discharged cured, 11 died, and 28 remained. The death-rate was 2·82 per cent., against 2·30 per cent. in 1903.

52. The following two institutions are not entirely supported by, but receive a large subsidy from, the Government:—

(1) *The Friend-in-Need Society's Hospital at Jaffna.*—The Friend-in-Need Society's Hospital at Jaffna received 1,918 patients, which with 62 remaining from the previous year made a total of 1,980. Of these, 1,848 were discharged, 63 died, and 69 patients remained at the end of the year. At the outdoor dispensary of this institution 10,164 persons were treated during the year; these paid 18,673 visits.

(2) *The Victoria Home for Incurables, Colombo.*—At this institution 54 cases remained at the end of last year, which with the 10 cases admitted during the year made a total of 64. Of these, 9 died and 5 were discharged; 50 patients remained at the end of the year.

53. *Bacteriological Institute.*—The total number of specimens examined bacteriologically during the year was 1,628, and the amount recovered by fees was Rs. 418. Special investigations were made on cerebro-spinal meningitis, diphtheria, and dysentery. Researches were also made on the hæmatozoa of vertebrates in Ceylon by the Director of the Bacteriological Institute (Dr. Castellani) in conjunction with Dr. Willey, D.Sc., F.R.S. The water supply of Colombo is examined bacteriologically once in three months.

54. *Total Deaths.*—The total deaths numbered 4,801, against 5,622 in 1903, showing a decrease of 821. A table showing the death-rate per cent. in the various hospitals and asylums in the Island for the year as compared with the last year is annexed. For the purposes of comparison the death-rates among the mixed races and Malabars have been shown separately:—

Hospitals.	Mixed Races.		Malabars.		Total.	
	1903.	1904.	1903.	1904.	1903.	1904.
Civil	6·12	5·81	15·86	12·93	8·47	7·28
Field	3·08	3·14	3·87	9·37	3·14	3·54
Immigrant	2·86	3·75	9·00	9·7	4·77	4·96
District	4·74	4·65	19·52	17·52	14·21	12·35
Asylums	10·26	7·90	10·80	9·09	10·33	8·06
Total ...	5·97	5·67	17·13	15·18	9·3	8·01

The percentage of deaths to cases treated in the Civil Hospitals showed a slight decrease among the mixed races and the Malabars. In the Field Hospitals there was a slight increase among the mixed races and an increase of 5·5 among the Malabars. In the Immigrant Hospitals the increase among the mixed races and the Malabars was slight. In the District Hospitals there was a slight decrease among the mixed races, but among the Malabars there was a decrease of 2·0. Taking all the hospitals and asylums together, there was a slight decrease in deaths among the mixed races, and a decrease of 1·95 among the Malabars. The percentage of deaths to total treated was 8·01, against 9·3 in 1903.

55. *Hospital accommodation.*—This was generally sufficient; occasionally some overcrowding took place. This remark especially applies to the Lunatic and Leper Asylums, for the extension of which steps are being taken.

56. *The Water supply*—with the exception of the following institutions: Matale, Mannar, Galle, Chilaw, Nikaweratiya, Balangoda, Trincomalee—was reported to be good, pure, wholesome, and abundant. Water for drinking purposes is, as a rule, filtered before use. Water supply schemes for Nanu-oya, Balangoda, and Tillicoultry are under consideration.

57. *Bathrooms.*—All hospitals are provided with separate bathrooms for males and females and furnished with tubs, which are filled with hot or cold water according to the requirements of the patients. Patients who can help themselves, however, prefer to bathe in streams, where there are such adjoining a hospital.

58. *Drains.*—There are no covered drains. The drains are all surface ones for carrying away the ward washings, rain, and storm water.

59. *Sewage.*—The conservancy of the latrines is entirely on the dry-earth system, the excreta being removed daily and buried or incinerated at some distance from the hospitals. Doulton's earthenware squatting plates have been introduced in some of the hospitals.

60. *Inspection.*—The hospitals were all inspected either by me or the Colonial Surgeons of the respective Provinces. The number of these visits of inspection and the official designation of the visitors will be found given in the return of each institution. The books were produced when called for, and were generally found complete and made up to the date of examination. The reports of inspection by the Colonial Surgeons as well as those by me were forwarded to Government when necessary.

61. *Food supply.*—The provisions for the various hospitals were supplied by purveyors on contract approved by Government. The system works satisfactorily. The Medical Officers in charge of the respective hospitals examine the food before it is served out to the patients, and reject such articles as do not come up to contract samples.

62. *Dispensaries.*—Four hundred and ninety dispensaries, including branch institutions and visiting stations, were in operation. Of these, 313 were Civil, 46 District, and 131 Estate. They are distributed as follows:—In the Western Province 33, Central 63, Northern 46, Southern 42, Eastern 40, North-Western 37, North-Central 38, Province of Uva 30, and Province of Sabaragamuwa 30, and on Estates 131. In the Civil and District Dispensaries there were treated 948,386 persons who paid 1,454,367 visits, against 921,422 persons who paid 1,434,260 visits in 1903.

63. *Port Duties and Immigration.*—The number of vessels which arrived at the Port of Colombo was 3,218, against 3,077 in 1903, 2,758 being steamers and 460 native craft. The number of native traders was 61,474 and coolies 71,297, against 66,068 and 47,858 in the previous year.

64. *Ragama Camp.*—The number of coolies who passed through the camp during 1904 was 60,171, against 46,478 in 1903. No case of cholera occurred during the year. Of the number of coolies who passed through the camp, 3,498 were vaccinated, and the rest either had marks of successful vaccination or of smallpox.

65. *Medical College.*—The College contains lecture halls, laboratories for chemical physiology, biology, and pathology, dissecting room, offices, photographic rooms, a museum and Colonial Medical Library, and a separate building for lady students, containing sitting-room, lavatory, and special dissecting room. Professor Browning, M.A. (Cantab), F.C.S. (London), has been appointed Lecturer in Chemistry and Public Analyst. During the year 19 new medical students, 12 apothecary students, and 2 casual students entered the College. There were 99 medical, 29 apothecary, and 2 casual students at the end of the year. The total fees amounted to Rs. 16,635, which is a decrease of Rs. 634·50 upon the fees of 1903, due to a very large number of students who entered in 1899 completing payment of their composition fee in 1904. It is hoped that in 1905 the new lecture rooms for chemistry and physics at the Technical College will be ready, and that the medical students will then have the advantage of pursuing these branches of study there.

66. *Post-graduate Lectures.*—For the second year in succession a course of instruction lasting a fortnight was held in Colombo for Medical Officers at outstations to familiarize themselves with the most recent advances made in medicine, surgery, and bacteriology. Thirteen Medical Officers attended in 1903 and eleven in 1904. These courses are much appreciated.

67. *Civil Medical Stores.*—Dr. Owen Johnson was in charge of this institution as Acting Medical Superintendent. Mr. A. D. Cotton is the Chief Storekeeper. The cost of the drugs, chemicals, and instruments received from England amounted to Rs. 153,696·78, from India Rs. 476·25. The cost of articles purchased from the Government Stores and the local market for the preparation of drugs in the Medical Stores came to Rs. 35,869·73, while the cost of repairing surgical instruments amounted to Rs. 14·25, and that of transport and postage to Rs. 3,458·75, extra service, petty expenses, and contingencies to Rs. 819·06, the sale of medicines to Government Departments and others Rs. 1,835·62, and sale of medicines to planters Rs. 1,478·39. The sale of unserviceable articles realized Rs. 282·83, and the value of the surgical instruments lost and paid for by the officers of the Department amounted to Rs. 222·27.

68. *Medical Legislation.*—During the year two very important measures affecting the medical profession in Ceylon have been framed, viz.:—

(*a*) An Ordinance for the registration of Medical Practitioners.
(*b*) An Ordinance for the incorporation of the Ceylon Medical College.

69. *Strength of the Medical Department.*—The strength of the Medical Department was as follows: 1 Principal Civil Medical Officer and Inspector-General of Hospitals, 1 Asssistant Principal Civil Medical Officer, 1 Registrar of the Medical College, 1 Director De Soysa Bacteriological Institute, 1 Professor of Chemistry and Public Analyst, 7 Colonial Surgeons, 1 Superintendent of the Lunatic Asylum, 1 Surgeon in charge of the General Hospital at Colombo, 3 Medical Women, 23 Assistant Colonial Surgeons, 26 Deputy Assistant Colonial Surgeons, 50 Sub-Assistant Colonial Surgeons, 14 Probationer Sub-Assistant Colonial Surgeons, 4 Health Officers, 235 Apothecaries, 1 Chief Medical Storekeeper, 1 Chief Inspector of Vaccination, 6 Inspectors of Vaccination, and 109 Vaccinators.

70. *Changes in the Department.*—The changes were the appointment of Professor K. C. Browning, M.A. (Cantab), F.C.S. (London), as Professor of Chemistry of the Medical College and Public Analyst: he assumed duties on 11th September, 1904; the death of Dr. W. H. Swan, Assistant Colonial Surgeon, Badulla, on 1st June; the retirement of Dr. G. J. Woutersz, Port Surgeon, Colombo, on 9th June; and the retirement of Mr. H. Cooray, House Surgeon, Galle, and of the late Dr. E. H. Swan.

71. *Expenditure.*—The expenditure of the Department, exclusive of hospitals worked under the Medical Aid Ordinance, amounted to Rs. 1,366,990·76, including exchange compensation, against Rs. 1,294,925·85 in the previous year. Under Personal Emoluments and Allowances the expenditure was Rs. 339,186·07, including exchange compensation, against Rs. 322,308·58. The expenditure under Other Charges was Rs. 1,010,827·71, against Rs. 959,697·55 last year; under Harbour Service Rs. 800, against Rs. 719·95 in 1903; and under the vote for Plague Precautions Rs. 16,176·98, against Rs. 12,199·77 in the previous year. The receipts on account of paying patients in hospitals amounted to Rs. 47,351·14, against Rs. 43,402·48 in 1903. The collections at the Civil Outdoor Dispensaries were Rs. 20,351·53, against Rs. 19,298·98 last year. The cost of medicines issued to the Estates Branch of the Department amounted to Rs. 112,562·30, against Rs. 112,058·97 in 1903, while the sale of medicines and superfluous articles, Medical College fees, &c., amounted to Rs. 59,609·41, against Rs. 55,756·69 last year. Deducting the receipts under the heads above specified from the expenditure, the nett expenditure was Rs. 1,127,116·38, against Rs. 1,064,408·73 in 1903.

The following statement shows the expenditure and receipts as compared with 1903:—

	1903.		1904.		Increase.	
Expenditure.	Rs.	c.	Rs.	c.	Rs.	c.
Personal Emoluments ...	297,757	82	314,173	67	16,415	85
Personal Allowances ...	24,550	76	25,012	40	461	64
Total—Rs.	322,308	58	339,186	7	16,877	49
Other Charges ...	74,507	81	75,964	75	1,456	94
Hospitals and Dispensaries ...	698,565	94	732,754	93	34,188	99
General	186,623	80	202,108	3	15,484	23
Total—Rs.	959,697	55	1,010,827	71	51,130	16
Harbour Service ...	719	95	800	0	80	5
Plague Precautions ...	12,199	77	16,176	98	3,977	21
	12,919	72	16,976	98	4,057	26
Grand Total—Rs.	1,294,925	85	1,366,990	76	72,064	91

Receipts.	1903. Rs. c.	1904. Rs. c.	Increase. Rs. c.
Amount received from paying patients in hospitals ...	43,402 48	47,351 14	3,948 66
Collections at Dispensaries ...	19,298 98	20,351 53	1,052 55
Cost of medicines issued to Estates Branch institutions ...	112,058 97	112,562 30	503 33
Sales of medicines and superfluous articles, College fees, and Bills of Health ...	55,756 69	59,609 41	3,852 72
Total—Rs.	230,517 12	239,874 38	9,357 26
Nett Expenditure—Rs.	1,064,408 73	1,127,116 38	—

ESTATES BRANCH.

72. During the year 1904 there were 1,743 estates scheduled to 33 districts and 31 sub-districts, with 20 District Hospitals and 29 District Dispensaries and 13 Civil Hospitals and Dispensaries.

The following are the districts and sub-districts, with the number of estates scheduled to each:—Avisawella District 46, sub-district Hanwella 10, sub-district Bandaragama 11, sub-district Ragama 1, sub-district Horana 6, Kalutara District 35, sub-district Horawella 5, Kandy District 65, sub-district Galagedara 9, sub-district Kadugannawa 19, sub-district Hanguranketa 4, Elkaduwa District 20, sub-district Wattegama 30, sub-district Madugoda 1, Kellebokka District 38, Dikoya District 60, sub-district Bogawantalawa 27, sub-district Watawala 36, Maskeliya District 66, Gampola District 57, sub-district Pussellawa 32, Lindula District 53, sub-district Agrapatana 43, Dimbula District 49, Matale District 77, sub-district Rattota 32, sub-district Gammaduwa 25, Teldeniya District 28, sub-district Rangalla 28, Deltota District 42, Nuwara Eliya District 36, sub-district Nanu-oya 18, Maturata District 25, Ramboda District 33, Uda Pussellawa District 30, sub-district Mulhalkele 3, sub-district Maspana 1, Nawalapitiya District 60, sub-district Dolosbage 29, Kotmale District 17, Morawak Korale District 26, sub-district Deniyaya 8, Balapitiya District 17, Elpitiya District 1, Udugama District 17, Badulla District 50, sub-district Namunukula 24, sub-district Passara 10, Lunugala District 14, sub-district Madulsima 29, Monaragala District 11, Haputale District 17, sub-district Bandarawela 8, sub-district Haldummulla 23, sub-district Koslanda 27, Kurunegala District 49, sub-district Rambukkana 3, Ratnapura District 22, Balangoda District 39, Rakwana District 23, Kegalla District 27, Karawanella District 67, sub-district Kitulgala 19, sub-district Aranayaka 13.

To attend to the medical wants of the above the following officers were employed :—Deputy Assistant Colonial Surgeons 15, Sub-Assistant Colonial Surgeons 10 (1 vacant), and Apothecaries 28.

During 1904 there were 8,299 estate labourers treated in the District Hospitals and Civil constituted District Hospitals, against 9,158 in 1903. Of these, 1,430 died, a death-rate of 17·23 per cent. Of the mixed races, 19,848 were treated, of whom 1,534 died, a death-rate of 7·72 per cent.

In the Civil Hospitals worked partly as District Hospitals the death-rate of estate labourers was 17·95 per cent., whilst in the District Hospitals it was 16·97 per cent. The highest death-rate (27·45 per cent.) among the estate labourers occurred in the District Hospital at Deniyaya, and the lowest (9·69 per cent.) in the District Hospital at Pussellawa. The admissions into the former were 204, into the latter 124. In the District Hospital, Dimbula, there were no deaths among estate labourers.

The total number of days the estate labourers stayed in hospital was 215,172, an average of 26 days. Of these, 145,139 were paid for by the estates, the rest being charged to the fund. The total number of days mixed races stayed in District and Civil Hospitals was 259,361, an average of 13 days.

The total number of estate labourers treated at the outdoor dispensaries was 38,987. The total number of estate labourers treated on estates was 10,527.

The total number of births reported from estates was 11,519, of which 5,785 were males, 5,483 were females, and 251 were still-births.

The number of deaths reported from estates was 7,283, of whom 3,601 were males, 3,674 were females, and in 8 cases the sex was not stated.

The expenditure under the Medical Aid Ordinance amounted to Rs. 538,016·80, including exchange compensation, and receipts to Rs. 327,772·41, derived from the following sources :—Export duty Rs. 148,555·72, hospital charges for treatment of coolies Rs. 45,937·10, recovered for visits paid to estates Rs. 20,547, sale of unserviceable and superfluous articles Rs. 202·08, medicines sold to superintendents of estates Rs. 1,557·79, medicins sold in bulk to superintendents of estates and prescriptions compounded Rs. 10,133·82, dispensary collections Rs. 1,646·31, cost of maintenance, medicine, and funeral expenses of other than estate labourers Rs. 95,734·92, recoveries for maintenance of others Rs. 3,457·67. The nett expenditure was Rs. 210,244·39. One hundred and thirty-one dispensaries are now established in the planting districts. The gross expenditure was—

	Rs. c.
Civil Branch	1,366,990 76
Estates Branch	538,016 80
Total—Rs.	1,905,007 56

and the nett expenditure was—

	Rs. c.
Civil Branch	1,127,116 38
Estates Branch	210,244 39
Total—Rs.	1,337,360 77

74. Appended are Tables I. and II. showing the receipts and expenditure of the Estates Branch of the Department.

A. PERRY, M.D., D.P.H.,
Principal Civil Medical Officer
and Inspector-General of Hospitals.

Colombo, April 28, 1905.

APPENDIX.

TABLE showing (Male) Provisional Summary of Results of Abstraction of Hospital Records, with the Age Distribution, of cases of Carcinoma and Sarcoma (C. and S.) arranged under the Tissues primarily affected.

	-5.		6–10.		11–15.		16–20.		21–25.		26–30.		31–35.		36–40.		41–45.		46–50.		51–55.		56–60.		61–65.		66–70.		71–75.		76–80.		81–85.		86–		Total.	
	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.
Penis ...	—	—	1	—	—	—	—	—	—	—	2	—	2	—	5	—	2	—	3	—	2	—	5	—	2	—	—	—	3	—	—	—	—	—	—	—	27	—
Cheek ...	—	—	—	—	—	—	—	—	2	—	3	—	2	—	13	—	8	—	5	—	4	—	4	—	5	—	3	—	1	—	—	—	—	—	—	—	50	—
Sub-maxillary gland ...	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	3	—
Leg ...	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2
Groin ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	3	1
Ard. palate ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Tongue ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	3	—	3	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—
Chest ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	4	—
Lips ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Kidney ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Femur ...	—	—	—	—	—		—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Rectum ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	—
Jaw ...	—	—	—	—	—	—	—	—	—	—	1	—	1	—	4	—	2	—	4	—	—	—	—	—	—	—	2	—	—	—	1	—	—	—	—	—	15	—
Armpit ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Foot and leg ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Thigh ...	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	4
Right hip ...	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Right shoulder ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Nose ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Stomach ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Coccygeal region ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Elbow ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Mouth ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	2	—	—	—	—	—	2	—	—	—	—	—	—	—	6	—
Liver ...	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Ankle ...	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Larynx ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—
Neck ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Forearm ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Parotid ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Face ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	2	—
Pancreas ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Right orbit ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Total ...	—	—	1	1	—	2	—	3	4	2	9	3	6	—	28	1	16	—	19	1	13	—	19	2	9	—	8	1	7	—	1	—	—	—	—	—	140	16

Table showing (Female) Provisional Summary of Results of Abstraction of Hospital Records, with the Age Distribution, of Cases of Carcinoma and Sarcoma (C. and S.) arranged under the Tissues primarily affected.

	-5.		6–10.		11–15.		16–20.		21–25.		26–30.		31–35.		36–40.		41–45.		46–50.		51-55.		56–60.		61–65.		66–70.		71–75.		76–80.		81–85.		86-		Total.	
	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.
Breast ...	—	—	—	—	—	—	—	—	1	—	1	—	1	—	5	—	3	1	2	—	3	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	19	1
Eye-ball ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Chest ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Cheek ...	—	—	—	—	—	—	—	—	—	—	2	—	—	—	3	—	—	—	—	—	4	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—
Liver ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Labia ...	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2
Leg ...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Uterus ..	—	—	—	1	—	—	—	—	—	—	3	—	7	—	10	—	2	—	2	1	1	—	4	—	—	—	1	—	—	—	—	—	—	—	1	—	31	2
Vagina ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—
Lip ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	4	—
Jaw ...	—	—	—	—	—	—	—	—	—	—	2	—	—	—	1	—	1	—	3	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	9	1
Arm ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Rectum ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Pelvis, left ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Broad ligament ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Abdomen ...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Tongue ...	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Head ...	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Ovary ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Mouth ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—
Stomach ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Neck ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	2	3
Thigh ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Face ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
Œsophagus ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Doubtful ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Total ...	—	—	—	1	—	2	—	1	1	3	12	3	9	—	24	2	7	2	12	1	11	1	10	1	3	1	2	1	1	—	1	—	—	—	1	—	94	19

Table showing Males and Females by Nationality in each Province affected with Cancer.

Province.	Europeans.		Sinhalese.		Tamils.		Moors.		Burghers.		Malabars.		Malays.		Total.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Western	—	—	50	37	2	5	2	—	2	2	—	1	—	1	56	46	102
Central	1	—	8	6	1	—	3	1	—	1	8	6	—	—	21	14	35
Northern	—	—	—	—	19	10		—	—	—	—	—	—	—	19	10	29
Southern	—	—	14	5	—	—		—	1	—	—	—	—	—	15	5	20
Eastern	—	—	—	—	5	—	2	—	—	—	—	—	—	—	7	—	7
North-Western ...	—	—	3	7	—	—	—	—	—	—	—	—	—	—	3	7	10
North-Central ...	—	—	2	—	—	—	—	—	—	—	—	—	—	—	2	—	2
Sabaragamuwa ...	—	—	7	7	—	—		—	—	—	2	1	—	—	9	8	17
Uva	—	—	4	3	—	—	—	—	—	—	4	1	—	—	8	4	12
Total ...	1	—	88	65	27	15	7	1	3	3	14	9	—	1	140	94	234

Table showing Males and Females by Nationality in each Province affected with Sarcoma.

Province.	Europeans.		Sinhalese.		Tamils.		Moors.		Burghers.		Malabars.		Malays.		Total.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Western	—	—	5	4	—	3	—	—	—	—	—	—	—	—	5	7	12
Central	—	—	—	—	—	—	—	—	—	—	1	1	—	—	1	1	2
Northern	—	—	—	—	5	6	—	—	—	—	—	—	—	—	5	6	11
Southern	—	—	4	2	—	—	—	—	—	—	—	1	—	—	4	3	7
Eastern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North-Western ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North-Central ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sabaragamuwa ...	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	2	2
Uva	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Total ...	—	—	9	8	5	9	—	—	—	—	2			—	16	19	35

Summary.

	Cancer.						Sarcoma.					
	Burghers.		Sinhalese.		Tamils.		Burghers.		Sinhalese.		Tamils.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0— 5	—	—	—	—	—	—	—	—	—	—	—	1
6—10	—	—	1	—	—	—	—	—	—	1	1	—
11—15	—	—	—	—	—	—	—	—	—	1	1	—
16—20	—	—	—	—	—	—	—	—	1	1	2	—
21—25	—	—	3	1	1	—	—	—	1	1	1	1
26—30	—	—	10	7	1	2	—	—	2	2	—	1
31—35	—	—	5	6	1	3	—		—	—	—	—
36—40	—	1	19	17	4	—	—	—	1	—	—	
41-45	—	—	7	4	5	2	—	—	1	—	—	1
46—50	2	—	6	9	4	3	—	—	—	—	—	1
51—60	1	—	19	17	5	3	—	—	2	2	—	—
61—70	—	1	13	3	2	1	—	—	1	—	—	2
71—80	—	—	5	1	4	1	—	—	—	—	—	—
81—90	—	1	—	—	—	—	—	—	—	—	—	—
91 and over ...	—	—	—	—	—	—	—	—	—	—	—	—
	3	3	88	65	27	15	—	—	9	8	5	9

(1) REPORT by J. Craib, M.D., Colonial Surgeon, Western Province.

I BEG to submit my annual report for the year under review, and to state that the general health of the Province has been satisfactory. There has been no outbreak of any serious epidemic, no cases of cholera, but there were small outbreaks of chickenpox and dysentery.

Population.

2. The estimated population as per figures obtained from the Registrar-General is as follows :—

Population	1903	953,344
	1904	966,553
Births registered	1903	34,278
	1904	32,738
Deaths registered	1903	20,904
	1904	19,529
Birth-rate per 1,000	1903	36·01
	1904	33·87
Death-rateper 1,000	1903	22·00
	1904	20·20

Prevalence of Sickness.

3. The most prevalent diseases were malarial fevers and their sequelæ, diseases of the digestive system, rheumatic affections, diseases of the respiratory system, ulcers, and skin diseases. Malarial fevers were more widely prevalent than any other disease.

4. *Malaria.*—This disease prevailed more or less throughout the year. The largest number treated was at the Mutwal dispensary 6,238, then at Hanwella 2,653, Avisawella hospital and dispensary 2,225, Halpe 1,790, Horana 1,760, Minuwangoda 1,726, Negombo 1,479, Ja-ela 1,219, and Kadawata 1,092. The epidemics which commenced during the last quarter of 1903 in the Mutwal division of the town continued throughout the year.

5. In the early part of the year Government appointed a Commission to inquire into the outbreak of malaria at Mutwal. The Commission consisted of Sir Allan Perry, Principal Civil Medical Officer; Dr. Chalmers, Registrar of the Ceylon Medical College; Professor Castellani, the Director of the Bacteriological Institute; Dr. Philips, the Medical Officer of Health, Colombo; and Mr. Skelton, the Municipal Engineer. The fever occurred in epidemic form throughout the year. It was at its highest in July, and thereafter gradually decreased. The apothecary at Mutwal outdoor dispensary itinerated daily from 2 to 5 P.M., making house-to-house visits and free distribution of quinine. These precautions made a marked reduction in the severity of the epidemic, a reduction which has been maintained ever since.

6. After the floods towards the end of May malarial fever prevailed during the months of June and July in the villages which were inundated by the overflow of the Kelani river, but it never assumed an epidemic form. Here also an apothecary was sent to itinerate and distribute quinine freely, with the result that the fever soon after abated.

7. *Dysentery.*—Several small outbreaks were reported from time to time, but never assumed an epidemic form.

8. *Parangi.*—This disease prevailed to a certain extent in the Province. There were 592 cases reported from the various institutions, Kalutara and Negombo divisions providing the most.

9. *Anchylostomiasis.*—This disease is prevalent amongst the estate labourers in the planting districts in this Province, and is being constantly introduced from the coast of India, and is on the increase.

10. *Ulcers and other skin diseases.*—These were reported from all the stations.

11. *Rheumatic affections* were also reported from all the stations.

12. *Leprosy.*—During the year 68 cases were admitted into the Leper Asylum; 19 cases were registered, as they were not in the contagious stage of the disease.

Relative Mortality.

13. *First quarter.*—The death-rate for the first quarter of the year was 20·0, being lower than the average 21·9, and lower than the rate for the corresponding quarter of the previous year and the rate for the preceding quarter, which was 21·5. The healthiest division of the Province was the Negombo District, the death-rate for the quarter having fallen to 18·2 from an average of 20·1. The principal diseases which contributed to the death-rate were malarial fevers, dysentery, and diarrhœa.

14. *Second quarter.*—During this quarter there was a marked falling off of the death-rate from 21·9 to 17·3 per thousand; each of the three districts, viz., Colombo, Negombo, and Kalutara, shared in the improvement. The Negombo District showed the lowest death-rate during the quarter (13·0) and Kalutara the highest, viz., 19·0. The principal diseases which contributed to the death-rate were fever, dysentery, and diarrhœa.

15. *Third quarter.*—The death-rate for the Province during this quarter fell to 18·5; both Negombo and Kalutara Districts fared better than usual, each of them showing a reduction of nearly 2 per thousand below the average. In the Colombo District the death-rate was slightly over the average, viz., 19·0. Again malarial fever and bowel complaints, diarrhœa, and dysentery were the principal causes of death, these diseases showing an increase over that of the preceding quarters.

Meteorological Conditions and their Effects on Public Health.

16. The heaviest rain falls during the months of May, June, July, November, and December, and malarial fever appears to be at its height during these months; during the dry months of the year dysentery, rheumatic affections, and respiratory diseases generally prevail.

Particular Diseases.

17. *Cholera.*—There was not a single case of cholera which originated in this Province during the year.

18. On the 3rd November the ss. "Torridge" arrived in the harbour from Bassein with a clean bill of health from that port, but with an epidemic of cholera on board. The crew were all

Europeans, and the day before the ship's arrival in harbour three healthy sailors were attacked with acute symptoms of cholera. These men were in a moribund condition on arrival, and one died very shortly afterwards, and the body was taken out to sea and buried; the other two cases were removed to Kanatta hospital, and in the course of the next two days four more seamen were stricken and removed to the Infectious Diseases Hospital, where three died, making a total of four deaths out of seven seizures. The rest of the crew, with the exception of the officers, were sent to Ragama Camp for five days, and during that period the vessel was thoroughly disinfected.

19. *Smallpox.*—There were five cases admitted into the Infectious Diseases Hospital, Kanatta; of these, only one was from the town of Colombo, the other four being sent by the Port Surgeon. The first case admitted was from Slave Island. He was a Malabar cooly, who had recently arrived from India. This case proved fatal. The second case was an Engineer (European) from the ss. "Reynolds," who was infected at Saigon. The third case was a lascar from the s.s. "Dan Robin," who was infected at one of the Indian ports. The fourth case was a European fireman from the ss. "Siam," who was infected at Rangoon. The fifth case was a lascar from the ss. "Argyll," who was infected at Calcutta.

20. *Chickenpox.*—There were 1,300 cases reported from various parts of the Province, against 526 in 1903; most of these cases were treated in their own houses. 478 cases were admitted into Kanatta hospital and treated there: the majority of these were from within the Municipal limits; 145 cases were reported from Minuwangoda, 137 cases from Panadure, 110 cases from Henaratgoda, 99 cases from Kesbewa, 91 cases from Kadawata, 58 cases from Hanwella, 32 cases from Veyangoda, and the balance were mere sporadic cases from various parts of the Province.

21. Return of reported cases of smallpox, modified smallpox, and chickenpox that occurred in the Western Province in 1904:—

Hospital or Station.	Total treated.										Total died.									
	Smallpox.				Modified Smallpox.						Smallpox.				Modified Smallpox.					
	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.
Infectious Diseases Hospital, Kanatta ...	5	1	4	—	—	—	—	—	478	483	1	—	—	—	—	—	—	—	—	1
Panadure ...	—	—	—	—	—	—	—	—	137	137	—	—	—	—	—	—	—	—	—	—
Negombo ...	—	—	—	—	—	—	—	—	16	16	—	—	—	—	—	—	—	—	—	—
Ragama ...	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Hanwella ...	—	—	—	—	—	—	—	—	58	58	—	—	—	—	—	—	—	—	—	—
Henaratgoda ...	—	—	—	—	—	—	—	—	110	110	—	—	—	—	—	—	—	—	—	—
Veyangoda ...	—	—	—	—	—	—	—	—	32	32	—	—	—	—	—	—	—	—	—	—
Mirigama ...	—	—	—	—	—	—	—	—	14	14	—	—	—	—	—	—	—	—	—	—
Kaduwela ...	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—	—
Aturugiriya ...	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
Kadawata ...	—	—	—	—	—	—	—	—	91	91	—	—	—	—	—	—	—	—	—	—
Kelaniya ...	—	—	—	—	—	—	—	—	11	11	—	—	—	—	—	—	—	—	—	—
Halpe ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Moratuwa ...	—	—	—	—	—	—	—	—	19	19	—	—	—	—	—	—	—	—	—	—
Minuwangoda ...	—	—	—	—	—	—	—	—	145	145	—	—	—	—	—	—	—	—	—	—
Divulapitiya ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Ja-ela ...	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—	—
Beruwala ...	—	—	—	—	—	—	—	—	20	20	—	—	—	—	—	—	—	—	—	—
Convict Establishment ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Welikada Jail ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Kesbewa ...	—	—	—	—	—	—	—	—	99	99	—	—	—	—	—	—	—	—	—	—
Total ...	5	1	4	—	—	—	—	—	1300	1305	1	—	—	—	—	—	—	—	—	1

22. *Measles.*—A few cases were reported from various centres, but the disease never assumed an epidemic form.

23. *Enteric fever.*—This disease prevailed throughout the year, and several cases occurred outside the Municipal limits. The cause of the majority of these cases was traced to polluted wells. 196 cases were treated in the General Hospital, with 33 deaths. In the Lady Havelock Hospital 50 cases were treated, with 16 deaths.

24. *Diphtheria.*—There were four cases of diphtheria reported during the year, three being admitted into the Kanatta hospital and one into the General Hospital. All these cases proved fatal. Of the three cases admitted into Kanatta hospital, the first was from Mutwal, the second from Moratuwa, and the third from Grandpass. The case admitted into the General Hospital was from the "Mount Mary" buildings. In all these cases the diagnosis was confirmed by bacteriological examination.

General Sanitary Condition of the Province.

25. There is certainly much room for improvement in the general sanitary condition, as it is far from being satisfactory.

26. The dwelling-houses are generally badly ventilated, and are crowded in many places and surrounded by high fences. The compounds are generally overgrown with undergrowth and covered with all kinds of rubbish.

27. With the exception of Colombo, the water supply is defective, and is generally obtained from shallow surface wells which are unprotected from surface pollution.

28. The drainage is also very defective, especially along the seashore and the villages more inland ; here and there large stagnant pools are found.

29. Judging from the Medical Officers' reports, an improved state of sanitation is being gradually introduced, and the headmen are paying special attention to this.

30. *Colombo.*—This town is yearly growing, but stringent measures are required, and are being taken, to keep it in a sanitary state. The system of conservancy employed is primitive and unsatisfactory. The disposal of sewage by burial is the same as it has been for many years past ; cesspits are gradually being abolished. The sweepings and rubbish of the town are still deposited over grass fields within the Municipal limits. The water supply of the town is sufficient and of good quality. The drainage system is very defective, but during the early part of the year Mr. Mansergh's modified drainage scheme was commenced, and rapid progress is being made.

31. *Panadure.*—The Medical Officer states that there has been no improvement in the sanitary condition of this town, and the condition pointed out in my last annual report remains unaltered.

32. *Kalutara.*—Very few improvements have been made since my previous report. The drainage system is gradually being extended. Latrine accommodation insufficient.

33. *Negombo.*—This town is very lowlying, hence its drainage is a very difficult matter. The Medical Officer reports that the sanitary condition was fairly satisfactory, and that the drainage of the more important parts of the town was good, but that the suburbs were almost devoid of drains and were full of numerous small swamps, which were in an insanitary state. Water supply defective. A scheme for supplying this important town with wholesome water is under the consideration of Government. At present the water supply is obtained from wells outside the town limits, and is conveyed in pots by carts.

34. *Avisawella.*—The Medical Officer reports that the sanitary condition of this town leaves much to be desired. Drainage is defective. There are no public latrines.

35. *Minuwangoda.*—This small town possesses a Sanitary Board, which is year by year doing good work by extending surface drains, erecting public latrines, and protecting the existing wells from contamination. The town is not overcrowded.

36. *Moratuwa.*—Nothing has been done since my previous report to improve the insanitary condition of this town. Drainage is very defective, and there are no public latrines. The conservancy of the town is very much neglected, and in many places the town is overcrowded and the houses ill-ventilated.

Hospitals.

37. *General Hospital, Colombo.*—The total number admitted in the pauper section of this institution during the year was 13,082 against 14,083 in 1903 ; of the total treated, 12,681 were new admissions. The total number of deaths was 908 : that is, 6·8 per cent. against 7·7 in 1903. This hospital consists of twenty-four wards and eight solitary rooms, and the daily average sick during the year was 451·10 against 460·48 in 1903. The female side was more or less overcrowded during the year, especially the female surgical ward, and I am of opinion that an extra ward of eight to ten beds is urgently required for gynæcological cases. The roofing of the two temporary wards should be made of a more permanent nature. The lower male wards were continuously overcrowded during the year. The latrines are on the dry-earth system, and were kept in as sanitary a condition as they possibly could be, but I would beg to recommend that the seats be all replaced by Doulton earthenware squatting plates. A Thresh's disinfector was in daily use at the institution, and has been kept in working order by the Public Works Department.

38. The paying section of this hospital consists of forty-two beds, and during the year 575 cases were treated, of which 56 died, and the percentage of deaths to total treated was 9·5. On several occasions during the year the accommodation was found to be inadequate, and I would therefore recommend that a new block of wards be built. A mortuary and storeroom are very much required for this section of the hospital, and I should be glad to see these put in hand at an early date. The new administration block was practically completed by the end of the year. Some means will have to be devised to relieve the congestion at this institution ; a large number of cases are practically incurable, and enter the hospital from destitution. They should be housed elsewhere, and the beds in the hospitals reserved only for those really sick and in need of treatment. The work of the hospital has greatly increased within the last few years. From personal observation during my frequent visits I can endorse the opinion that the work is too heavy for the present staff, more especially on the surgical side. The Surgeon in charge is greatly overworked, and should be provided assistance. The figures he quotes in his report show this conclusively. The paying wards of the hospital have been largely used by the general public and planters. A large number of serious cases have passed through these wards, and many surgical operations of great gravity done. The opinion of all the patients has been in favour of the administration, and the improved nursing has elicited great praise.

39. The clerical staff of the hospital is inadequate ; another clerk and another assistant to the steward are necessary. The nursing of the General Hospital also requires improvement. The night nurses should be increased, and a special nurse should be appointed for gynæcological cases.

40. A gatekeeper for the paying section is urgently required.

41. *De Soysa Lying-in Home.*—The total number of patients treated at this institution during the year was 776, as against 813 in 1903 and 737 in 1902. Of the total treated, 751 were discharged cured, 8 died, and 17 remained at the end of the year. The percentage of deaths to total treated was 1·30, against 2·07 in 1903 and 1·25 in 1902. The number of Moorish women who sought admission during the year was 28, and the institution is annually gaining in popularity with this class of patients.

42. *Lady Havelock Hospital.*—The total number of patients treated during the year was 1,159, of which 18 were paying patients. The daily average sick was 31·83, and the percentage of deaths to total treated was 6·98, against 9·76 in 1903. There were 51 cases of enteric treated with 16 deaths, against 39 cases last year with 17 deaths. There were 46 operations performed with one death.

43. *Police Hospital.*—839 cases were treated at this institution during the year with only one death, as against 838 with one death in 1903. The daily average sick was 11·87. At the outdoor dispensary 1,800 cases were treated.

44. *Grenier Eye, Ear, and Throat Institution.*—7,848 cases were treated during the year at this institution, of which 7,440 were eye cases, 205 ear cases, and 203 throat cases ; during the previous

year 6,602 were treated. The collections amounted to Rs. 269·26, as against Rs. 126·20 in the year 1903.

45. *Leper Asylum, Hendala.*—At the end of the year 1903 289 lepers remained, and during the year 155 were admitted, viz., 128 males and 27 females. The total treated during the year was 444, and of these 58 were discharged, 58 died, and 328 remained under treatment at the end of the year. Of the 155 new admissions, 68 were from the Western Province, 18 from the Southern Province, 4 from each of the following Provinces, viz., Central, Uva, and Sabaragamuwa, 3 from the Eastern Province, 2 from the Northern Province, 1 from the North-Western Province, and 1 from the North-Central Province. The daily average sick was 305·06, and the percentage of deaths to total treated was 13·06, being a decrease in the death-rate of the previous year by 5·50. Of the 58 discharged, 13 were allowed home isolation, 13 temporary leave by Government, and at the expiration of their leave they were re-admitted, 32 absconded and were reported to the police, 21 were brought back, and 11 were at large at the end of the year. The female side of this institution was very much overcrowded during the whole of the year, but this defect will, I hope, be remedied at an early date, as plans have already been passed for the extra accommodation required.

46. *Kanatta Infectious Diseases Hospital.*—During the year 740 cases were treated, and of these 20 remained from the previous year and 720 cases were admitted; of these, 701 were discharged cured, 11 died, and 28 cases remained under treatment at the end of the year. The daily average sick was 30·47, and the death-rate was 2·82 per cent. Of the total treated, 5 were for smallpox, 492 for chickenpox, 182 for measles, 37 for mumps, 1 for whooping cough, 3 for acute diarrhœa, 6 for cholera, 3 for diphtheria, 3 for observation for diphtheria, 2 for observation for cholera, 2 for observation for acute diarrhœa, 4 for observation with pneumonia from plague-infected ports. Of the 11 cases that died, 2 were from measles, 1 from smallpox, 3 from cholera, 3 from diphtheria, 2 from acute diarrhœa. This institution consists of a number of cadjan buildings, all more or less in a ruinous condition. It is now time that these huts were replaced by buildings of a permanent nature.

47. *Panadure hospital.*—At the commencement of the year 21 patients remained from the previous year and 600 were admitted, against 470 in 1903. The daily average sick was 24·70, and the percentage of deaths to total treated was 10·30. There was hardly any overcrowding during the year, but a special ward is required on the female side for dysentery and diarrhœa cases, as well as dispenser's quarters and an operating room.

48. *Negombo hospital.*—At this hospital 832 patients were treated during the year; of these, 804 were new admissions, against 891 in 1903. The daily average sick was 26·57, and the total deaths 69 against 75 in 1903. The death-rate was 8·29. The condition of this institution is very satisfactory, with the exception of the surface drains, which require extending to the boundary drains. There was no overcrowding during the year, and the accommodation is sufficient for the requirements of the district.

49. *Kalutara hospital.*—At this hospital during the year there were remaining over from last year 26 cases, and 926 cases were admitted, making a total of 952 treated during the year; of this number 836 were discharged, 74 died, and 44 remained under treatment. The daily average sick was 36·91, as against 28·60 in 1903. The death-rate was 7·56, as against 8·78 in the previous year. This hospital was kept in good repair during the year. Quarters are urgently required for the apothecary as well as a new dispensary.

50. *Avisawella hospital.*—1,185 patients were treated in this hospital during the year, of whom 964 were discharged, 152 died, and 69 remained. The daily average sick was 71·24, and the percentage of deaths to total treated 12·82, as against 15·96 in 1903. There was no overcrowding during the year. This hospital is in good state of repair. All that is required for this institution is a house for the dead cart and the dipensary enlarged, which can be done at very little cost.

51. *Neboda hospital.*—During the year 794 cases were treated; of this number 40 remained over last year, 754 were admitted, 615 were discharged, 143 died, and 36 remained. The daily average sick was 43·08, and the death-rate was 18·01. There was a certain amount of overcrowding during the year. Two extra wards are required for this institution, viz., a diarrhœa ward for males and another for females, each to consist of ten beds; an administration block and dispenser's quarters are also required.

Jails.

52. The general health of the convict prisons was on the whole fairly satisfactory, with the exception of an epidemic of malarial fever at Mahara jail. This epidemic commenced early in the year and gradually increased until the month of June; it continued unabated until the end of the year. There were 877 cases of malarial fever treated during the year, as against 361 in 1903; the heaviest admissions to hospital were during the months of June, September, and October, when 106, 104, and 105 cases respectively were admitted. The above numbers do not include the cases under observation. For some time quinine was freely administered to all the prisoners as a prophylactic, but with no beneficial result.

53. The daily average sick for all the jails was 97·73, as against 96·65 in 1903.

54. The death-rate this year was exceptionally low, the lowest that has been for ten years or more. The death-rate to total strength of jail was 2·33, as against 3·90 in the year 1903, and to total treated was 1·22, as against 2·10 in 1903. During the year there were 1,198 malarial fever cases treated with 7 deaths, 558 cases of diarrhœa with 5 deaths, 323 cases of dysentery with 17 deaths, 168 eye affections, 32 cases of pneumonia with 7 deaths, 99 injuries with no deaths, and 1,113 cases of other diseases with 8 deaths. There was a marked improvement in the number of dysentery cases treated during the year, viz., 323 cases, as against 422 in 1903 and 675 in 1902. The falling off in the number of dysentery cases was most marked in Welikada jail as well as Hulftsdorp, and this marked falling off may be due to the precaution taken in the early part of the year of having each prisoner supplied with two flannel banians, one for day and the other for night use.

55. The number of cases of diarrhœa treated was about the same as in 1903, but the death-rate was smaller. There were three cases of acute diarrhœa.

56. There was a marked falling off in the number of pneumonia cases; 8 were admitted from Welikada with 1 death, 5 from Mutwal with 2 deaths, and 14 from Mahara with 4 deaths.

57. There was a marked falling off in the number of eye affections treated. Most of the cases were conjunctivitis, which is very common amongst prisoners who work in the quarries.

58. Enteric fever occurred in all the jails, and there were 17 cases with 3 deaths, as against 23 in 1903. Of this total, Mahara had ten cases, Welikada five cases, Mutwal and Hulftsdorp had each one case. The cause in most of the cases could not be traced. Seventeen cases of mumps and three of chickenpox were treated in the wards of the Prison Infectious Diseases Hospital.

59. *Latrines.*—There has been a great improvement effected in the latrines at Mutwal and Borella Convict Hospital: the old insanitary seats have been replaced by Doulton's earthenware squatting plates. Thorough disinfection can now be carried out, as all these plates are placed on cemented platforms. The latrines at Welikada have not yet been supplied with Doulton's squatting plates, and I would strongly recommend that the improvement to these latrines be taken in hand at an early date.

60. The water supply of all the jails, except Mahara, is the town supply; it is pure and wholesome and in sufficient quantity. There was no overcrowding during the year, and the average daily strength of the jails was 1,630·57, as against 1,612·37 in 1903. The average daily sick was 97·73, as against 96·65. The only structural alteration to any of the jails was that the administration block at Hulftsdorp was completed during the year, and extensive alterations are to take place during 1905 at this jail.

The Port of Colombo.

61. During the year 2,758 steamers called at this port and 460 native vessels; of the latter 328 worked in quarantine. No cases of plague were imported during the year, but six vessels were kept in strict quarantine pending observation of suspicious cases. Four cases of smallpox were landed and sent to the Infectious Diseases Hospital, and there were the cases of cholera previously mentioned. Disinfection of baggage and passengers from infected ports was carried out at Kochchikade disinfecting station; Thresh's disinfectors were in use during the year and gave satisfaction. The total number of persons, including passengers, tally clerks, coolies, &c., who underwent personal disinfection at the station was 36,489. 61,474 traders arrived in Colombo during the year and 71,297 estate labourers; 11,387 persons were vaccinated immediately on arrival; 1,965 persons landed on bond from infected ports reported themselves during the year.

Ragama Camp.

62. 60,171 coolies and others passed through the camp during the year, as against 46,478 in 1903. 954 were kept in quarantine. Of these, 805 were cholera contacts from cholera-infected areas, and 149 were from plague-infected areas. Of the total number of coolies who passed through the camp, 3,498 were found to have no marks of vaccination, and were all vaccinated by the apothecary.

63. *Ragama hospital.*—There were only four cases treated in the hospital during the year, and they were admitted for the following diseases: one for pneumonia, which proved fatal, one for chickenpox, one for malarial fever, and one for dysentery. 545 cases were treated at the dispensary during the year.

The drainage of the camp is satisfactory.

Vaccination.

64. The total number vaccinated in the Western Province during the year was 41,162 primary and 4,661 re-vaccinations. Of the primary vaccinations, 37,210 were successful, 1,693 unsuccessful, 2,259 absent. At the inspection of the re-vaccinated 3,052 were successful, 842 unsuccessful, 767 absent at inspection. The percentage of successful cases was primary 95·64, re-vaccination 78·37. Twenty-nine vaccinators were employed during the year; out of these, eight worked in the town of Colombo, two on estates, one as calf vaccinator, Colombo, and eighteen itinerated in the villages. Calf vaccination is carried out at the Calf Depôt, Kanatta. During the year 304 calves were vaccinated, from which 17,194 tubes of glycerinated paste was made. The total cost of the institution for the whole year was Rs. 5,338·36, and the amount realized by the sale of calves was Rs. 695·50.

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(2) REPORT of G. P. Schokman, M.B., C.M., Colonial Surgeon, Central and North-Central Provinces.

I HAVE the honour to submit my report for the year 1904 of the Central and North-Central Provinces:—

	Central Province.	North-Central Province.
Population	644,435 ...	79.387
Births registered	23,577 ...	3,369
Deaths registered	15,082 ...	2,965
Birth-rate, per 1,000	36·5 ...	42·4
Death-rate, per 1,000	23·4 ...	37·3

2. The population of the Central Province shows an increase of 12,113 over that of the previous year. The total number of births registered was 23,577 and deaths 15,082, as against 23,632 and 15,844 during the previous year. The birth-rate was 36·5 and the death-rate 23·4 per mille, as against 37·4 and 25·1 in 1903.

In the North-Central Province there is an increase of 424 over the population of 1903. The births registered numbered 3,369 and the deaths 2,965, as against 3,039 and 3,542 in the previous year. The birth-rate was 42·4 and the death-rate 37·3, as against 38·5 and 44·9 in 1903.

Prevalence of Sickness.

3. As usual, malarial fevers, intestinal and respiratory diseases, and rheumatic affections were prevalent during the year. These were closely associated with climatic causes. In spite of the year having been an exceptionally wet one, the general health of the Provinces appears to have been satisfactory.

4. *Malarial fevers.*—The general opinion of officers is that this disease has been of a milder type owing to the efficacy of the quinine treatment, to which the majority resort, dispensaries being within easy access of the village population. No epidemics were reported.

5. *Parangi.*—This disease prevails to a very great extent, chiefly in Matale North and beyond the Kalawewa tank. The cases treated were of a mild character, and were readily amenable to treatment. All officers report that the disease is less prevalent now than in previous years.

6. *Dysentery and diarrhœa* prevailed throughout the year. Both villagers and estate labourers suffered equally from these complaints, climatic and dietetic causes being chiefly instrumental in their production.

7. *Anchylostomiasis*, which was at one time confined to estate labourers, and which undoubtedly was imported by immigrant coolies, appears to be affecting those villagers who work and reside on estates. This disease, I regret to observe, is still extensively prevalent, and contributes largely to the death-rate of the Central Province.

8. *Leprosy.*—Twenty-four cases of leprosy were reported from the Central Province during the year, but only five cases from the North-Central Province. Of this number, three were removed to the Leper Asylum at Hendala and the rest were isolated in their own houses. Of the total number reported, nineteen were in the contagious stage. Of those isolated in the houses, five died, eight have left the Province, and six are awaiting the order of Government for removal to the Asylum at Hendala.

Relative Mortality in the Different Seasons.

9. In the absence of reliable data to go upon, I am unable to afford any information on this point, but, taking the prevalence of sickness as a criterion, I surmise that the death-rate was highest during the first and last quarters of the year.

Meteorological Conditions and their Effects on the Public Health.

10. During the wet seasons (first and last quarters) chest affections and bowel complaints prevailed. Malarial fevers invariably followed the wet seasons.

Particular Diseases.

11. Three cases of smallpox occurred during the year—all among estate labourers: one on Glencairn estate, Dikoya, in February, one on Diyanellekele estate, Lindula, in April, and the last one on Upper Binoya estate, Watawala, in December. All these cases recovered. In the two first cases the source of infection could not be traced. The case on Upper Binoya estate was that of a cooly who was returning to his estate from the Coast. This case was reported early and the usual precautions of isolation and vaccination rigidly enforced. There were no fresh cases anywhere. There were no cases of cholera.

12. *Chickenpox.*—1,160 cases were reported from the Central Province. Of these, 584 occurred in the District of Kandy. Only seven cases were reported from the North-Central Province. There was one death from this disease in the Infectious Diseases Hospital at Kandy.

13. *Measles and Mumps* prevailed to some extent in Kandy town and Bogambra jail. Altogether 43 cases of measles and 73 of mumps were treated in the Infectious Diseases Hospital.

14. *Enteric fever.*—Several cases occurred in the overcrowded and insanitary parts of the town of Kandy, and of these 22 were treated in the hospital at Kandy.

15. *Diphtheria.*—Only one case was reported during the year, and that from Dambulla. The diagnosis was confirmed by the Government Bacteriologist.

Sanitation.

16. *Kandy.*—Every endeavour has been made during the year to improve the general sanitary condition of the town. Several cesspits remaining in the crowded parts of the town have been closed and dry-earth closets substituted. The crowded alleys have been specially inspected and reported on. The drainage of the town remains as bad as before, and nothing has resulted from the scheme which was under consideration for its improvement. The worst part of the town is Katukele. Twenty-two cases of enteric fever were admitted into the hospital during the year, the majority, if not all, being residents of this place. The water supply, according to the Sanitary Officer's report, is pure and admirably adapted for all domestic purposes. It should, however, be extended so as to reach the more crowded localities, such as Katugastota and Katukele. The supply of water is abundant. In addition to the periodical inspection of dairies, some steps should be taken to prevent the indiscriminate sale of milk of all qualities. The markets were maintained in an excellent condition. Scavenging of town satisfactory.

17. *Matale.*—Sanitary condition of the town is fair. The water supply is wholesome and sufficient. Drainage is bad, but steps are being taken to improve it. Conservancy bad, and the number of latrines is insufficient. Scavenging, slaughter-house, and bakeries satisfactory.

18. *Dambulla.*—The water supply is obtained from a Government well which runs dry during a protracted drought. The water is brackish. An additional well is required. There are no latrines. The side drains and scavenging require attention.

19. *Rattota.*—Water supply not good and insufficient. It is obtained from wells. A latrine was built during the year.

20. *Gammaduwa.*—Water supply good and abundant.

21. *Gampola.*—Water supply insufficient and unwholesome. A new scheme for a water service has been taken in hand after some years of consideration. Drainage: the existing drains should be cemented, and a further extension of the drainage system is necesaary. Scavenging and disposal of night soil are satisfactorily done. Bakeries are situated in the crowded parts of the town, and are not quite satisfactory.

22. *Nawalapitiya.*—The water supply to the town is wholesome and sufficient. Latrine accommodation satisfactory. Further extension of the drainage is necessary. The large open drain which passes in the hollow between the Railway goodshed and Railway buildings lining Gampola road should be built in concrete to render it sanitary. Slaughter-house and exposure shed require efficient drainage.

23. *Pussellawa.*—Sanitation fairly satisfactory. The drainage was greatly improved during the year, but there is still room for improvement. An additional Horbury latrine was erected opposite the 23rd milestone. Water supply pure and ample. Scavenging regularly done. Bakeries and butcheries kept clean.

24. *Ramboda.*—The Medical Officer reports that the sanitation of the place is satisfactory.

25. *Dikoya.*—Drainage satisfactory. *Hatton*: More drains are required. *Norwood:* New drains were constructed during the year, and are in a satisfactory state. Water supply is required.

for Hatton and Dikoya. Latrines sufficient for all three places. Scavenging done satisfactorily in all three places. Slaughter-house and bakeries in good order. There are no dairies.

26. *Maskeliya.*—Water supply good. Drainage good. Latrines: there are two, which are kept clean.

27. *Bogawantalawa.*—Water supply plentiful and good. Drainage: cement drains are necessary; drain leading from Horbury latrine to main barrel drain requires cementing. Scavenging excellent. The floor of the slaughter-house was re-cemented during the year. A cattle pound is required. Bakeries well kept, but are situated too close to the cattle shed. The town is provided with two Horbury latrines.

28. *Dimbula.*—Water supply pure and free from sewage impurities. Drains at Kotagala require cementing. There is no latrine accommodation. Two Horbury latrines are required.

29. *Lindula.*—Water supply is pure, but insufficient during the dry months. Drainage: cemented drains were extended during the year, but more drains are required at Lindula, Talawakele, and Tillicoultry. Latrines: all the bazaars are supplied with Horbury latrines, which are kept clean. Scavenging unsatisfactory. The back yards of the houses should be attended to more regularly. Slaughter-house and bakeries clean and tidy.

30. *Agrapatana.*—Sanitary condition satisfactory. Water supply is abundant and pure. Bazaars at Glenlyon, Agraouvah, and Diyagama should be provided with latrines; one was provided last year for Holbrook bazaar. The drainage is bad except at Diyagama.

31. *Nanu-oya.*—Water supply insufficient and not good. Drainage defective. Two Horbury latrines have been put up, but are insufficient for present requirements; one more is necessary. Scavenging done well.

32. *Nuwara Eliya.*—Water supply pure and abundant. Better protection by a barbed wire fence is required for the reservoir to prevent its possible contamination. Drainage defective, especially in the back streets in the old town. The lake has been partly cleared of weeds and silt by dredging. Scavenging done on contract satisfactorily. The disposal of night soil is not satisfactory. Latrines sufficient and maintained in good order. Bakeries and butcheries clean and well kept. Stricter supervision of vendors of milk is necessary.

33. *Uda Pussellawa.*—Sanitation fairly satisfactory. Water supply abundant and pure. No drains are required.

34. *Katugastota.*—Water supply obtained from the river; it is impure. Extension of the water service from Kandy is necessary. There are two Horbury latrines, which are insufficient for the requirements of the place. Scavenging regularly done. Bakeries kept clean.

35. *Wattegama.*—Water supply obtained from a well and a stream. Both are liable to contamination. Drainage unsatisfactory; the surface drains require repairs. Two more Horbury latrines are required. Scavenging, bakeries, and slaughter-houses satisfactory. A burial ground is required for the town.

36. *Madulkele.*—Water supply ample. Drainage bad. Latrine accommodation nil. Two latrines should be erected at Huluganga, as the Sunday markets attract a large concourse of people. Scavenging satisfactory.

37. *Teldeniya.*—Streams and shallow wells form the only source of water supply; a well should be sunk for the use of the town residents. Drainage defective. There are no latrines. Two Horbury latrines are necessary.

38. *Padiyapelella.*—Water supply wholesome and abundant. Drainage requires improvement. There is only one latrine for this populous place; another is necessary.

39. *Maturata.*—Water supply, obtained from springs, is abundant and wholesome. Drainage satisfactory.

40. *Kadugannawa.*—Water supply good; obtained from two wells. Drainage defective. Latrines nil; two Horbury latrines should be erected.

41. *Anuradhapura.*—Water supply, obtained from the tanks, is abundant and wholesome. General sanitary condition of the town good. Drainage imperfect.

42. *Mihintale.*—Water for drinking purposes is obtained from the tank; the quantity is sufficient. There are no latrines or drains.

Vaccination.

43. Vaccination was carried out throughout the year by 24 vaccinators, of whom 19 worked in the Central Province and 5 in the North-Central Province. Of the 19 employed in the Central Province, 9 were estate vaccinators, 8 village vaccinators, 1 Mohammedan vaccinator, and 1 female vaccinator. The female vaccinator worked amongst the Moorish and other communities in Kandy, Matale, Gampola, Nawalapitiya, and Hatton. The Medical Officers and apothecaries of the different dispensaries also vaccinated from time to time.

44. The five vaccinators employed in the North-Central Province worked in the different villages, and were under the immediate supervision of the Inspector of Vaccination, who resides at Anuradhapura.

45. During the year under review 27,028 subjects were vaccinated in the two Provinces, 14,012 males and 13,016 females. The percentage of successful to total vaccinated was 82·45.

46. 354 subjects were vaccinated during the year, of whom 205 were successful, 146 unsuccessful, and 3 unknown. Percentage 57·90 successful to total vaccinated.

47. 395 vaccination defaulters were prosecuted during the year under review in the Central and North-Central Provinces. Of these, 43 were discharged for various reasons and the rest were fined.

48. 32 complaints were made to the Government Agents of the two Provinces against headmen who failed to perform their duties in accordance with the terms of the Ordinance, and of the number thus reported two were dismissed from office, one was fined, and the rest warned.

49. The town vaccinator vaccinated twice a week at the outdoor dispensary of Kandy, and subjects were brought thither from the different parts of the town by a police constable appointed for the purpose. In addition to the work done by this vaccinator, the female vaccinator made house-to-house visitations in the most populous parts of the town.

Jails and Jail Hospitals.

50. *Kandy.*—2,132 prisoners were confined in the Bogambra jail, and 1,707 in the Old jail. The daily strength was 416·62 and 59·03 respectively. There was no overcrowding. The

number treated during the year was 745 with 4 deaths, giving a daily average of 18·07 and a percentage of ·5 deaths to total treated. Of the four deaths, one was due to an accident and the remaining three to disease. The general health of the prisoners was satisfactory.

Towards the end of the year there were three admissions of enteric fever among the convicted prisoners. Two were recent transfers from Colombo, and the third a jinrickshaw cooly of Kandy. The blood of all three cases was examined at Colombo and gave positive result to Widal's reaction. All the cases recovered.

51. *Anuradhapura.*—Six prisoners were treated with a daily average of ·08. No deaths. General health of prisoners satisfactory.

52. *Nuwara Eliya.*—Fifty-one cases were treated in the hospital with one death, giving a percentage mortality of 1·96. Diarrhœa and dysentery contributed the largest number of cases treated. Food supply, water, and sanitation satisfactory. The kitchen of the jail requires improvement.

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(3) REPORT of A. B. Santiago, F.R.C.S., Edin., Acting Colonial Surgeon, Northern Province.

I HAVE the honour to submit the report of the Northern Province for the year 1904, the duty of preparing which has devolved on me in consequence of Dr. Rudd proceeding on leave on the 31st January last.

2. I was in charge of the Province for the first five months of 1904 and Dr. Rudd for the rest of the year.

Population, Births, and Deaths.

3. I am indebted to the Provincial Registrar for the following statistics exhibiting the estimated population of the three districts of Jaffna, Mannar, and Mullaittivu comprising the Province, as well as the births and deaths in these districts, for the years 1903 and 1904 :—

		Jaffna.	Mannar.	Mullaittivu.
Population ...	1904 ...	311,153 ...	24,293 ...	15,087
	1903 ...	306,193 ...	24,465 ...	15,012
Births ...	1901 ...	10,892 ...	991 ...	678
	1903 ...	11,246 ...	898 ...	579
Deaths ...	1904 ...	11,117 ...	1,021 ...	599
	1903 ...	10,630 ...	1,411 ...	703
Birth-rate per 1,000	1904 ...	35·00 ...	40·79 ...	44·93
	1903 ...	36·72 ...	36·70 ...	38·56
Death-rate per 1,000	1904 ...	35·72 ...	42·02 ...	39·70
	1903 ...	34·71 ...	57·67 ...	46·82

4. It will be seen from the above figures that the population of 1904 has increased over that of the previous year by 4,960 in the Jaffna District and 75 in the Mullaittivu District, while there has been a decrease of 172 in the Mannar District. The number of births has increased by 93 in the Mannar District and by 99 in the Mullaittivu District, while there was a decrease of 354 births in the Jaffna District. The number of deaths has increased by 487 in the Jaffna District, while there was a decrease in the Mannar and Mullaittivu Districts of 390 and 104 respectively.

Prevailing Diseases.

5. (*a*) *Malarial fevers* were of all diseases the most prevalent in the Province. The cases treated at the various hospitals and dispensaries during the year aggregated 59,669, as against 60,726 for the previous year. The largest number treated was at the Point Pedro second dispensary, 9,240, 5,815 at the Jaffna dispensary, 4,525 at Valvettiturai, 4,092 at Kankesanturai, 4,087 at Vavuniya, 2,458 at Vaddukoddai, 2,394 at Pallai, 2,148 at Mullaittivu, &c. It is worthy of remark that these fevers raged with greater virulence during the first than during the last quarter of the year under report. In 1903, however, the order was reversed, the public health being more affected during the last than during the first quarter of that year. The prevalence of fever seems to depend to some extent on the rainfall, a heavy rainfall at the beginning of the last quarter of the year being generally followed by an extensive prevalence of malarial fevers due to defective drainage, stagnant water, the presence of mosquitoes, damp dwellings, &c.

(*b*) *Diarrhœa and Dysentery* come next in the order of prevalence, the cases for 1904 being 4,307, or 722 in excess of the number for the previous year. The largest number of cases (1,620) occurred at Point Pedro.

(*c*) *Ulcer and other skin diseases* were also of common occurrence, the total number reported being 4,088. Of these, the largest number (1,091) was treated at the Point Pedro second dispensary, and the smallest number (3) at the visiting dispensary at Nanaddan in the Mannar District.

(*d*) *Parangi.*—847 cases were treated at twenty-three stations in the Province. The total for last year was 1,067 ; this year shows a decrease of 220 cases. The area affected is confined to the Vanni, and there is a reasonable hope that with the opening of the railway and the introduction of wholesome food into the interior villages the ravages of this disease will be effectually arrested.

(*e*) *Venereal diseases.*—The total number treated was 637 cases, against 525 for the previons year, showing an increase of 112 cases. These diseases prevail chiefly in the seaport towns, and a large proportion of them is, I presume, contracted abroad.

(*f*) *Pneumonia.*—Under the head Respiratory Diseases pneumonia is the only disease mentioned in the hospital and dispensary returns. The total number treated during the year was 367, as against 234 for 1903.

(*g*) *Anchylostomiasis.*—Out of a total of 23 cases 21 were treated at Valvettiturai and one each at Chavakachcheri and Mannar.

(*h*) *Cancer.*—Seven cases occurred during the year, two each at Jaffna, Chavakachcheri, and Valvettiturai, and one at Kankesanturai. Last year there were ten cases.

(*i*) *Leprosy.*—Five cases were reported from the whole Province, three of these from the outdoor dispensary at Point Pedro, one from Jaffna, and one from the dispensary at Kankesanturai. All hese cases have been isolated in their own houses.

(*j*) *Elephantiasis.*—There was only one case for the whole Province treated at the Chavakachcheri dispensary.

Epidemic Diseases.

6. (*a*) *Cholera and Smallpox.*—Barring one fatal case of smallpox at Karaitivu West, the Province enjoyed a perfect immunity from these diseases.

(*b*) *Chickenpox and Measles.*—These diseases were of a limited prevalence, the cases reported aggregating seventy-four of chickenpox and one of measles.

Relative Mortality in the Different Seasons of the Year.

7. As pointed out in previous reports, there are only two seasons in this part of the Island, viz., the wet and dewy corresponding with the first and fourth quarters, and the hot and dry corresponding with the second and third quarters. The first and last quarters of the year are generally unhealthy, and the mortality is high. During the second and third quarters the people are less liable to attacks of disease, and the place is comparatively healthy.

Meteorological Conditions and other Causes affecting the Public Health.

8. The climate of the Province is chiefly influenced by the monsoon rains. The rainfall, which marks the setting in of the south-west monsoon, is generally limited, and the period during which it prevails is comparatively dry and healthy. As the north-east monsoon sets in rain falls copiously and continues for three or four months, flooding the low-lying part of the country. In November the dew sets in and lasts till the end of February. It is during the season of the north-east monsoon, and especially during its latter part, when the dew is heavy with cold nights and chilly mornings, that fevers, chest and rheumatic affections, and bowel complaints are of frequent occurrence. People who live on low grounds in houses or huts more or less exposed, and who are insufficiently clothed and fed, are more liable to contract these diseases than others.

The rainfall during the last quarter of the year was remarkably scanty, resulting in an almost total failure of the local paddy crop; the country was not flooded, the dew was not heavy, and there was less sickness in the Jaffna District than during the corresponding period of the previous year.

General Sanitary Condition.

9. Speaking generally, the sanitary condition of the Province is not satisfactory. The site of the dwellings in many places is neither dry nor provided with such a slope as renders drainage easy. The country is generally flat, and in many localities rain water stagnates. This is particularly the case in the Jaffna Division, where the population is very large, and where it is very necessary to carry out an efficient system of drainage.

Overcrowding is on the increase in many quarters, such as Karaiur, Passaiur, parts of Vannarponnai, especially that occupied by the Moors, Valvettiturai, and Point Pedro, and the problem of efficiently dealing with the sanitation of these quarters claims special attention.

With the spread of education it is only fair to expect the more general recognition of the principle of ventilation in the construction of dwellings, but I am sorry to observe that even substantial houses still continue to be so built as to shut out air and light. Dwelling compounds are as a rule enclosed by high fences covered with cadjans; little care is taken to keep these compounds clear of rubbish and rank vegetation, and no provision is made for closets, a portion of the compound being made to serve as an open air latrine.

10. *Jaffna* is a large and populous town and the capital of a first class Province. Its sanitation and conservancy are attended to by a Board of Health, which is in receipt of a special annual vote from Government. The need has been felt and urged of the introduction of a Local Board or Municipality.

Water supply.—The great need of Jaffna is a pure and sufficient supply of water. With this supply provided the public health will be materially benefited. Attention has been frequently called to this subject.

11. *Point Pedro* ranks next to Jaffna in importance as a township. The houses are overcrowded and ill-ventilated. The compounds are enclosed by stone walls or cadjan fences. The drainage in some parts is unsatisfactory. The water derived from uncovered wells is generally brackish. Good water is obtained by the richer classes from Puloli, where the civil hospital is situated.

12. *Mullaittivu.*—The drainage of the town as well as of the District of Mullaittivu is defective owing to the presence of low-lying lands which become flooded at times and overgrown with rank vegetation and infested with mosquitoes. Water is abundant, but not wholesome.

13. *Vavuniya.*—The conditions prevailing at this station have been improving slowly, but with the railway line, which is nearly completed, its improvement should be rapid. The water supply is derived partly from tanks and partly from wells, and is in neither case satisfactory.

14. *Mannar.*—The drainage is defective, the town being poorly supplied with drains. Good water is obtained from Thottakadu, a distance of 2¼ miles, and sold at the rate of from one to two cents per gallon. Poor people unable to pay this rate derive their supply from the tanks which are polluted by human excreta and by domestic and cattle washing. A good water service would be a great boon to Mannar.

The report of the Medical Officer, Mannar, is annexed :—

Annual Report for 1904 on Mannar Town, by Fitzroy Keyt, L.R.C.P. & S. Edin., Northern Province.

I HAVE the honour to submit my report for 1904, and to state that the year under review has been a very satisfactory one as compared with the previous year. The death-rate is very much lower and the birth-rate higher than they were last year, and the birth-rate exceeds the death-rate by 5 per 1,000 of inhabitants.

2. This report deals especially with Mannar town; where possible, however, I give statistics of the Mannar District comparing this with last year. These figures for the district are for the first eleven months of the year; most of the centres of population are so inaccessible that I find it is impossible to get all the information I require for December in time for this report.

Population.

3. The population of Mannar town at the Census of 1901 was 3,338. The Registrar-General, in his Vital Statistics, estimates the population at 5,332; I believe this is an error, and in calculating my birth-and death-rates I have taken the first figure.

4. The population of the Mannar District at the last Census was 24,363. The bulk of the people of the district consist of the agricultural class, being cultivators of paddy land which is irrigated from Giant's tank. A large number of the residents of Mannar town, too, cultivate land in the adjoining "mainland" of Ceylon, the rest of the inhabitants

being mostly fishermen and traders. Near Mannar town is a large Moorish village called Irukkulampiddi with a population of nearly 2,000.

5. *Births and Birth-rate: Mannar town.*—There were 132 births registered in Mannar town during 1904, as compared with 99 registered during 1903. The birth-rate per 1,000 inhabitants was 39·54 in 1904, as compared with 29·65 in 1903.

6. *Mannar District.*—There were 916 births registered in the District of Mannar during the first eleven months of 1904, as compared with 851 registered during the same period of 1903, the birth-rate per 1,000 inhabitants per annum being 41 in 1904, as compared with 38·9 in the previous year, showing a very material increase in the birth-rate not only in Mannar town, but also in the whole of Mannar District.

7. *Deaths and death-rate: Mannar town.*—There were 115 deaths registered in Mannar town during 1904, as compared with 155 deaths in 1903, that is, a death-rate of 34·45 per 1,000 inhabitants, as compared with 46·43 in 1903. In considering the death-rate of Mannar town allowance should be made for those people who die in the hospital who come from elsewhere; there were 10 such deaths during 1904, which when deducted from the total number of deaths give 105, or a death-rate of 31·45 per 1,000 inhabitants.

8. *Mannar District.*—There were 919 deaths registered in the District of Mannar during the first eleven months of 1904, as compared with 1,340 during the same period in the previous year, the death-rate being 41·12 per 1,000 inhabitants per annum in 1904, as compared with 59·96 in 1903, so that there is a decided decrease in the death-rate in Mannar town and in the District of Mannar this year, viz., of 12 per 1,000 inhabitants in Mannar town and of 18 per 1,000 inhabitants in Mannar District as compared with 1903. The death-rate would probably be lower but for the pearl fishery held at Marichchukkaddi.

9. Table I.—Statement of Vital Statistics of Mannar Town during 1904 as compared with 1903.

Population (Census, 1901) 3,338

	1903.	1904.
Number of births registered	99	132
Birth-rate per 1,000 of population	29·65	39·54
Number of deaths registered	155	115
Death-rate per 1,000 of population	46·43	34·45
Number of deaths of children under one year of age ...	50	35
Death-rate of children under one year of age to 1,000 births registered	505	265

10. Table II.—Statement of Births and Deaths showing Number of Deaths of Infants under One Year of Age during 1904 in Mannar Town.

	Number of Births.	Number of Deaths.	Number of Deaths of Children under One Year of Age.
January	9	9	1
February	10	12	2
March	4	12	1
April	8	12	3
May	10	12	1
June	11	7	3
July	17	11	4
August	12	7	3
September	15	10	5
October	11	4	3
November	11	9	3
December	14	10	6
Total ...	132	115	35

11. Table III.—Comparative Statement of Number of Births and Deaths during each of the First Eleven Months of 1903 and 1904 in Mannar District

	1903.			1904.		
	Number of Births registered.	Number of Deaths registered.	Number of Deaths of Children under One Year of Age.	Number of Births registered.	Number of Deaths registered.	Number of Deaths of Children under One Year of Age.
January ...	122	153	145	65	72	72†
February ...	69	173		79	78	
March	95	168		71	75	
April	93	189	102	67	124*	65†
May	68	147		62	105*	
June	84	127		78	67	
July	76	124	70	86	72	—
August	77	67		89	71	—
September ...	56	65		109	86	—
October... ...	48	46	—	109	67	—
November ...	63	81	—	101	102	—
Total for eleven months	851	1,340	—	916	919	—
Rate per 1,000 of population per annum ...	38·09	59·96	—	41·0	41·12	—

* The large number of deaths in April and May, 1904, shown in Table III. is probably due to the pearl fishery held at Marichchukkaddi.

† Table III. also shows that the infant mortality during the first two quarters of 1904 was much lower than during the same period in 1903.

12. *Infant mortality.*—The number of deaths of infants under one year of age in Mannar town was 35 in 1904, as compared with 50 in the previous year, that is, a mortality rate of 265 per 1,000 births registered, as against 505 in 1903. Although there is a very decided improvement this year, the mortality is very high as compared with that in the United Kingdom: the infant mortality for England and Wales in 1901 (the latest year I am at present able to quote) was 151 per 1,000 births registered.

13. Of the 35 infants who died in Mannar town during 1904, no fewer than 16 died within the first seven days after birth Of these, only one showed symptoms of Trismus neonaorum; the rest died of Maradmic conditions, these deaths being for all practical purposes at present quite unavoidable; they are probably due to ante-natal conditions, which can only be remedied by improving the general physical condition of the mothers, who are often run down in health by nursing their children for prolonged periods.

14. Of the infants under one year of age who died after the first week, the deaths are mostly due to disturbances of the gastro-intestinal track and to convulsions, both probably brought on by improper feeding. When a mother, from any cause, is unable to nurse her infant it has to be brought up on starchy foods, usually made of rice, such as rice congee or even boiled rice or hoppers, as the majority of the people cannot afford to buy artificial foods, and fresh milk cannot be obtained in Mannar in those years when there is little rain ; this year (1904), for instance, fresh milk was obtainable only during January and February. Thus a reference to Table II. will show that the infant mortality was much greater during the latter part of the year, especially when compared with the total number of deaths ; thus in October out of a total of four deaths three were of children under one year of age. I may here state that a native midwife, trained at Government expense for eight months in the De Soysa Lying-in Home, lives in Mannar and attends maternity cases for a very small fee, varying from 50 cents to Rs. 3 according to the means of the patient, so that it is possible for the poorest people to obtain the services of a trained midwife. I would suggest that such trained midwives be stationed in the more populous of the villages in the Mannar District in order to reduce to some extent the infant mortality of the district.

Prevalance of Sickness during the Different Seasons of the Year.

15. The year is divided into north-east and south-west monsoons, the former from October to May and the latter from June to September. Mannar is, as a rule, very healthy during the south-west monsoon, when the number of patients treated in the hospital and at the outdoor dispensary is small.

16. A large number of cases of malarial fevers is treated during the north-east monsoon ; the number in any one year depends on the amount of rainfall. The rains usually commence towards the latter part of October and the epidemic of fever about the middle of December, and it lasts till April or May. I give below a table showing the number of cases of malarial fever treated at the outdoor dispensary and in the hospital for the last ten years, month by month, with the monthly average for the ten years.

17. There have been comparatively few cases of fever treated here since I have been in Mannar, and I find that a very large percentage of the cases treated come from the District of Mannar. I have found the type of fever very mild, yielding readily to quinine. The blood of every case of fever treated in hospital is examined microscopically before a diagnosis of malarial fever is made. The number of cases of dysentery treated was evenly distributed throughout the year, and was not influenced by either of the seasons.

18. Table IV.—Number of Cases of Malarial Fevers treated from month to month at the Outdoor Dispensary and in the Hospital at Mannar during the last Ten Years.

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Monthly Average for last Ten Years.
January ...	92	838	287	77	228	156	288	136	724	255	308
February ...	62	458	167	88	198	123	251	94	510	213	216
March ...	68	189	178	123	109	86	108	89	259	209	141
April ...	47	116	118	62	117	59	74	83	198	182	105
May ...	54	78	100	33	77	61	68	51	165	164	85
June ...	36	54	59	35	43	49	38	48	107	47	51
July ...	44	37	53	32	85	39	38	56	147	44	57
August ...	32	28	57	51	53	35	25	39	149	36	50
September ...	16	41	57	39	45	25	16	30	100	24	39
October ...	17	52	61	52	36	12	24	28	96	25	40
November ...	66	90	84	98	73	27	41	72	105	50	70
December ...	549	252	68	215	137	81	56	385	164	102	200
Total ...	1,083	2,233	1,289	905	1,201	753	1,027	1,111	2,724	1,351	1,367

19. Table V.—Statement of Rainfall in Mannar during the last Ten Years.

Year.	Inches.	Year.	Inches.
1895	34·83	1901	29·10
1896	51·11	1902	55·21
1897	38·58	1903	42·82
1898	37·53	1904	22·35
1899	44·39	Average for last ten years ...	39·23
1900	36·39		

Relative Mortality in the Different Seasons.

20. A reference to Table II. will show that in Mannar town the number of deaths during the north-east monsoon is slightly higher than during the south-west monsoon, but that the infant mortality is greater during the third and fourth quarters than during the first and second quarters. A reference to Table III. will show that there is a marked increase in the number of deaths during April and May for the Mannar District, due probably, either directly or indirectly, to the influence of the pearl fishery which was held at that time at Marichchukkaddi.

Meteorological Conditions of the Seasons and their probable Effect with regard to Sickness.

21. As I have already stated, the year in Mannar is divided into two seasons, the north-east and the south-west monsoons, known locally as the " winter " and the " summer " seasons respectively. During the south-west monsoon the wind is extremely strong and blows from a south-westerly direction at the rate of about 700 to 1,000 miles a day. Unfortunately there is no anemiometer in the Mannar observatory, and the actual velocity cannot be given. The weather is extremely dry during this season, as is shown in Table VI.; during this season there is no pasturage whatever, and the cattle die in large numbers for the want of food and water ; no fresh milk can be obtained, and the infant mortality begins to rise with the onset of the south-west monsoon. Otherwise this season is regarded as the healthy season, and the number treated at the outdoor dispensary and in the hospital during this period is small.

During the north-east monsoon the wind blows with considerable less force ; there is a fair amount of rain and with, or rather after, the rains an outbreak of malarial fever, which from my limited experience is very slight and of a very mild type in Mannar town, but rather more severe in the district. There are many more cases of malarial fever treated both in the hospital and at the outdoor dispensary during this season, but most of these cases come from the adjoining district.

22. An examination of Table VI. will show that Mannar is favoured with a not unpleasant climate. Although the shade thermometers register high temperatures, the heat is not felt at all, as there is always a fair amount of breeze. Some think this is unpleasantly strong during the south-west monsoon. Mannar possesses a dry climate not only from the small amount of rainfall, but also its atmosphere is, for Ceylon and for a seaside locality, very dry, giving a degree of humidity of under 70 per cent. of saturation. The rainfall, as I have already said, is small, perhaps exceptionally so this year, there being only 22·35 inches of rain, and this fell on only thirty-nine days in the year. During 1904 Mannar has scarcely had one summer day.

23. Table VI.—Summary of Meteorological Observations taken in Mannar Town during 1904.

	Mean Temperature of Air.	Maximum in Shade.	Minimum in Air.	Mean Degree of Humidity.	Direction of Wind.	Force of Wind.	Rainfall (Inches).	Number of Days on which Rain fell.
	°	°	°	°				
January ...	79·4	88·0	70·0*	73	N.E.	Moderate	2·24	8
February ...	80·0	91·6	65·3	69	N.E.	do.	·18	1
March ...	85·0	95·5†	69·0	62	Variable	do.	—	—
April ...	88·0	97·8	75·0	63	S.W.	Strong	·01	1
May ...	87·4	96·5	70·0	67	S.W.	do.	·06	1
June ...	84·5	91·0	75·0	70	S.W.	do.	—	—
July ...	83·4	91·5	72·5	73	S.W.	do.	3·25	1
August ...	83·5	90·0	77·0	72	S.W.	do.	—	—
September ...	83·2	90·5	76·0	74	S.W.	do.	·15	1
October ...	84·0	96·0	73·5	70	S.W.	Moderate	3·51	9
November ...	83·1	92·7	71·0	69	Variable	do.	1·71	4
December ...	78·7	87·8	71·8	74	N.E.	do.	11·24	13
For year 1904 ...	83·3	97·8	65·3	69	—	—	22·35	39

* On February 1, 1904. † On April 19, 1904.

Remarks of Particular Diseases that have occurred during the Year.

26. The total number of cases treated at the outdoor dispensary was 4,314, as compared with 6,994 the previous year. Of this number, 1,351 were treated for malarial fever and 52 for dysentery. Most of these cases of malarial fever came from the villages round about, only a very few cases occurring among residents of Mannar town.

27. The number of admissions to the hospital during the year was 329, as compared with 355 the previous year. There were 18 deaths in the hospital during the year, giving a percentage of 5·4 per cent. of deaths to the number of cases admitted.

28. The Civil Hospital consists of three wards (two male and one female) of twelve beds each ; these wards are never full. A large number even of the poorer people of Mannar town object to being treated in the hospital. I believe the mortality could be reduced if the people sought medical aid more readily and took more advantage of the hospital.

29. During the year, besides several minor operations, six operations were performed under an anæsthetic, viz.:—

One for fistula in ano. Successful.
Two for abscess of liver. Successful.
One setting of fracture of both bones of leg. Successful.
One amputation for compound comminuted fracture of both bones just below knee joint, result of gun-shot, and excision of portion of omentum, result of stab wound of abdomen. Patient died of shock.
One for tuberculosis ærial fistula into trachea. Unsuccessful.

30. *Malarial fever.*—The number of cases of malarial fever treated during the year forms a large proportion of the total number of cases treated, viz., 82 in the hospital and 1,269 at the outdoor dispensary. These cases occur chiefly during the north-east monsoon after the rains. A very large number of the cases treated come from the villages round about. Mannar town itself I do not consider very malarious ; at least I have not found it to be so during the seven months I have been here. As the population of the district consists almost entirely of the cultivators of paddy lands irrigated from tanks, I do not see how the number of cases of malarial fever could be reduced.

31. In Mannar town, with better drainage and the filling up of all the small tanks, malarial fever should not exist at all, except in those who contract the infection on the "mainland," but I believe the people will strongly resist any attempt to fill up these tanks, as the water is used not only for their own use, but also for their cattle, of which there are a very large number in Mannar.

32. *Dysentery.*—A total of 61 cases was treated, 52 at the outdoor dispensary and 9 in the hospital. All these were of a mild type and yielded readily to a mixture containing the sulphates of soda and magnesia with carminatives.

33. *Enteric fever.*—One case, from Irukkalampiddi, was treated during the year ; the man died almost immediately after he was admitted to the hospital, and the diagnosis was made from the post-mortem appearances of the ilium and the adjoining mesenteric glands.

34. *Phithsis.*—Three cases came under my observation during the year ; two of these were admitted to the hospital for short periods on and off. The spurta of all these cases were examined and the bacillus tuberculosis found. One of the cases was a police constable who was sent to Mannar from Colombo a couple of months before on account of ill-health ; the other two are residents of Mannar with a tuberculous family history.

35. *Parangi.*—Sixteen cases were treated, 6 at the outdoor dispensary and 10 in the hospital. These cases came from Talaimannar, a village situated twenty miles from Mannar. I have not seen any parangi among the residents of Mannar town.

36. *Anchylostomiasis.*—One case was treated in the hospital ; he is a Malabar cooly who has recently arrived in this district from the North-Western Province.

General Sanitary Conditions of Mannar Town.

37. *Water.*—The drinking water of Mannar town is obtained from wells at Totakadde (about 2¼ miles from Mannar). One well, known as Uumba Kennai, has an inexhaustible supply of a quite pure water, and it is this well which supplies Mannar during the greater part of the year. It is only after very heavy rain, when the paths to this well are quite muddy and impassable, that water is taken from any of the other wells at Totakadde. These also contain good drinking water ; as the water has to be brought so great a distance it is sold at the rate of one to two cents a gallon. Many of the poorer people therefore use the water from the tanks, when there is any, not only for washing, but also for cooking and drinking. This water, I believe, is polluted with human excreta, and it is to be hoped that Mannar will soon be provided with a good water service.

38. *Conservancy.*—There are two public latrines—earth closets—in Mannar, one for males, the other for females. These are situated on the seashore close to the bazaars ; they are well cleaned once a day and washed with disinfecting solutions ; the contents of the buckets are buried on the seashore about 200 yards from the latrines and far away from any houses or the source of any drinking water.

39. All Government buildings are provided with earth closets. Nearly all the private dwelling-houses, I regret to say, have cesspits. I have not had the opportunity of inspecting any of these, and cannot say in what condition they are kept. The poorer cottages are not provided with closets of any sort, and the excreta of their tenants must pollute the tanks in and around the town, the water from which during the rains is used by many people for drinking.

Table VII

Rainfall Chart for Mannar during 1904.

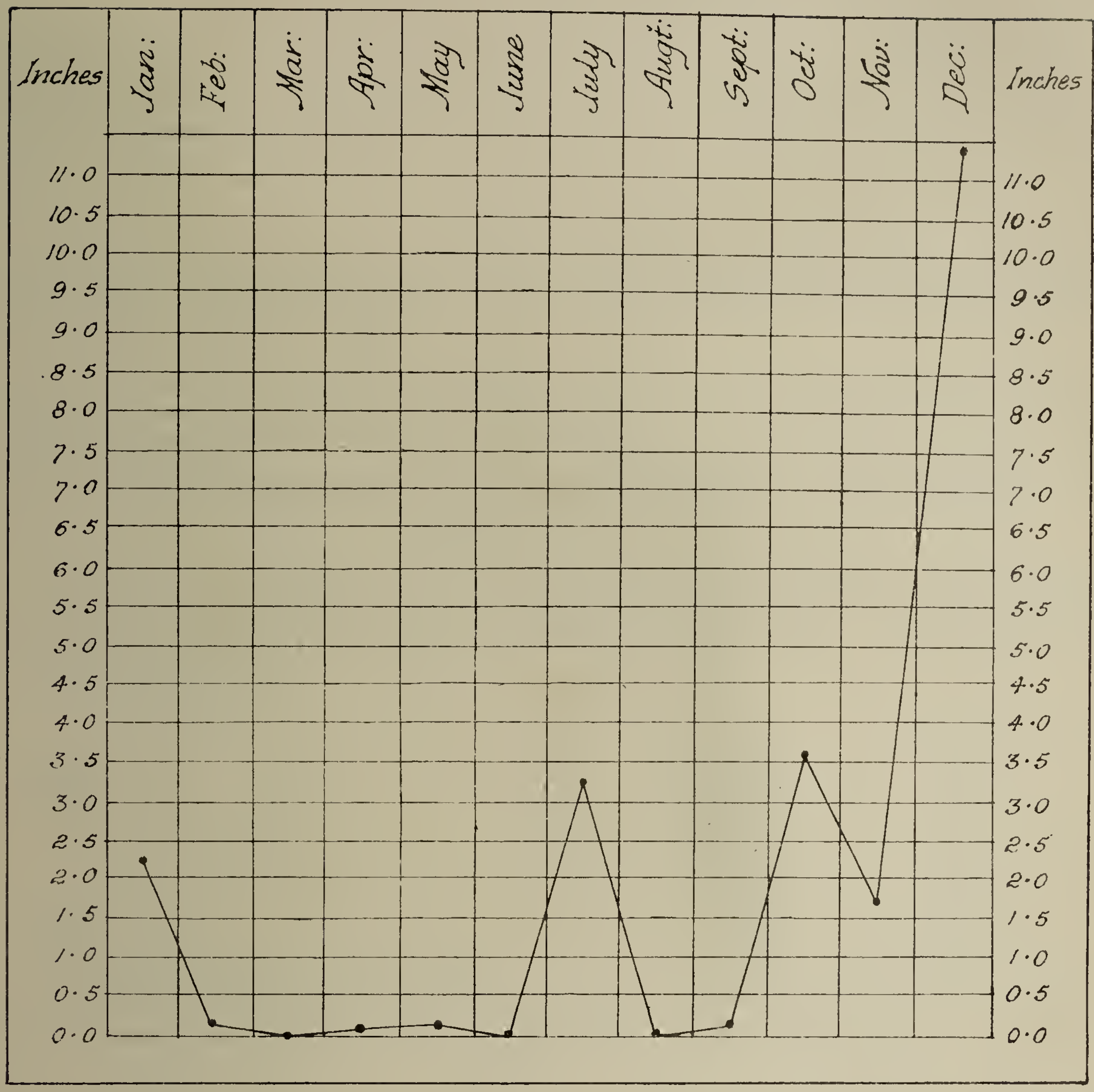
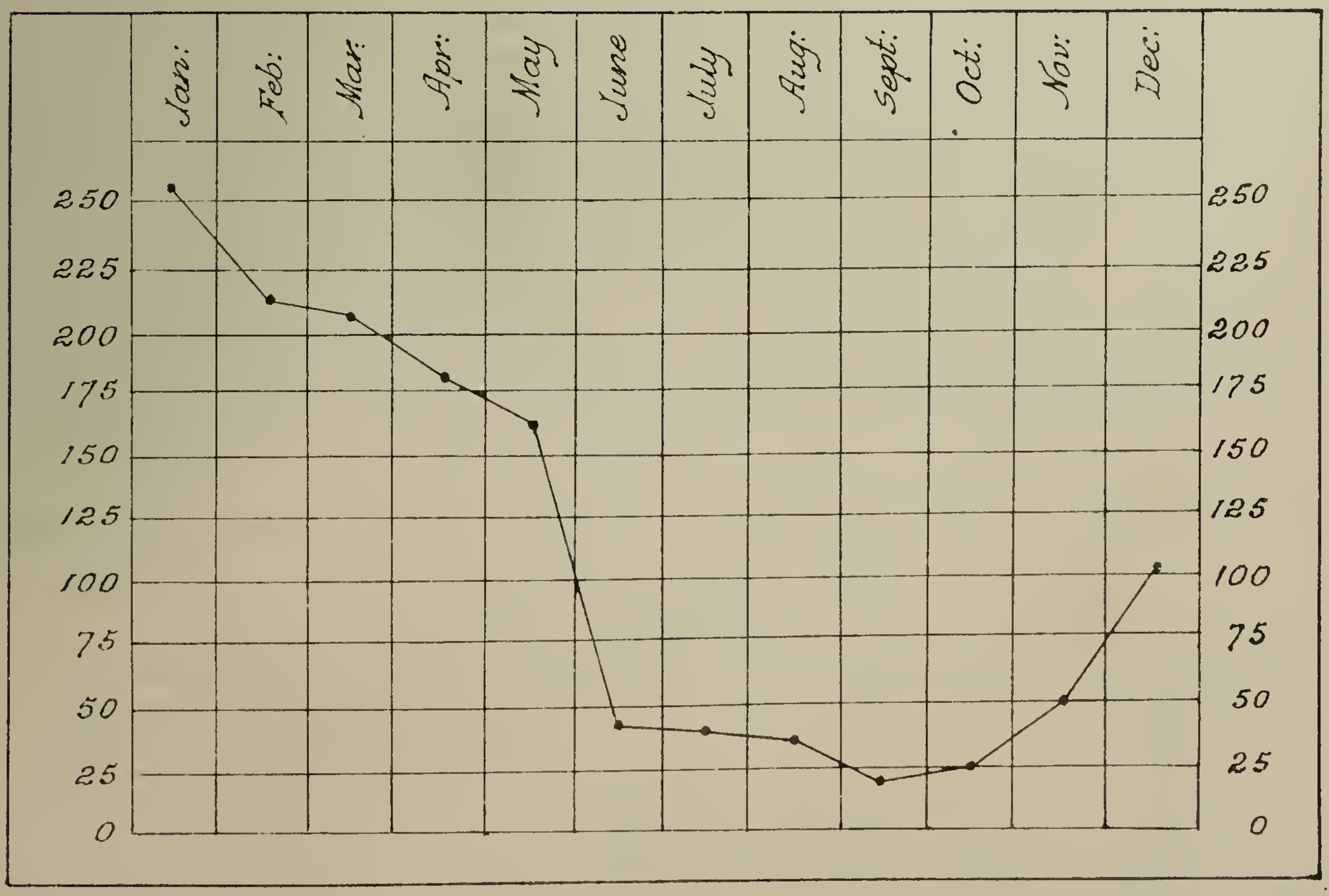


Table VIII

Chart showing number of cases of Malarial Fever treated in the Hospital and at the Out-door Dispensary at Mannar from month to month in 1904.



40. *Drainage.*—The town of Mannar is very poorly supplied with drains. In the wet weather there are several large ponds full of water. As Mannar is so exposed there is always a strong breeze, and I have not found the larvæ of mosquitoes as yet in any of these "tanks." I have, however, as a precautionary measure, asked the Assistant Government Agent to have them stocked with small fish. The people would strongly object to the use of kerosine, as this would render the water unfit for use for themselves and their cattle. I was told by a rather old resident of Mannar that sometime back the town had the reputation of being a very malarious place, but when Sir William Twynam was Assistant Government Agent here, between 1856 and 1868, he had several of the tanks closed up, and ever since then Mannar has been comparatively free from malaria.

41. *Scavenging.*—The scavenging of the town is performed by half a dozen coolies, who go round with a cart and remove all refuse, &c., from each ward once a week ; there are six wards, and the scavenging of each one occupies one day.

Vaccination.

42. Vaccination is carried on at the outdoor dispensary in Mannar every Saturday morning. The lymph is sent direct from Colombo. 180 cases were vaccinated during the year, 136 were successful, 42 failures, and 2 absentees. The "absentees and failures" were subsequently successfully vaccinated. The vaccination of the district is carried on by one vaccinator, who pays visits to the villages.

Port.

43. The port of Mannar is a closed port to Indian vessels. 751 vessels called at Mannar during the year ; the majority of these were from Ceylon ports. Six came from Adrampatam and Negapatam in South India. These were quarantined for the full period at Kayts, and then they were only allowed to discharge and load their cargoes. Their crews were not allowed to land.

Seven vessels called from Paumben during the year bringing Government divers for Marichchukkaddi ; where possible the divers were quarantined in the old cooly shed at Mannar before being sent to Marichchukkaddi.

Vaccination.

15. Vaccination was carried on throughout the year by seven vaccinators, whose work was frequently inspected by the Colonial Surgeon and Inspector of Vaccination. It was also carried on by the several Medical Officers and apothecaries at their respective stations. Numbers and results of 1903 and 1904 are as follows :—

Primary vaccination.—

	1903.	1904.
Adults	117	92
Children	10,220	6,944
Infants	4	1,668
Total cases	10,341	8,704
Successful	7,648	6,598
Failed	2,137	1,794
Absent	556	312
Percentage of successful to total inspected	78·16	78·49

Re-vaccination.—Numbers re-vaccinated were 279. Of these, successful 110, failed 150, and absent 19. Percentage of successful to total inspected 42·30.

Jail.

16. The jail hospital, Jaffna, is the only one of its kind in the Province. It has accommodation for 224 prisoners. The total number confined during the year was 355, of whom 210 were convicted and the rest were on remand. The daily average strength was males 104·02 and females ·77. The largest number confined on any one day was 133. The jail hospital consists of two wards. The number of sick prisoners treated in the hospital during the year was 56, of whom 52 were discharged, 2 died, and 2 remained under treatment at the end of the year. The daily average sick was 1·53. The general health and sanitary condition of the jail was quite satisfactory.

Hospitals and Dispensaries.

17. There were in operation 5 hospitals, 26 permanent dispensaries, 5 dispensaries attached to hospitals, 7 visiting dispensaries, and 6 permanent itinerating or visiting stations in this Province.

Hospitals.—The total number of new cases admitted into the various hospitals during the year was 2,235 and the daily average sick was 102·71, varying from 13·81 at Mantota to 26·64 at Mullaittivu. The average stay was 12·41, ranging from 10·08 days at Vavuniya to 16·30 at Mantota. There were 100 deaths, the death-rate varying from 1·73 at Mullaittivu to 6·12 at Mantota. There was overcrowding at the Point Pedro hospital, at the Mantota hospital, and at the Mullaittivu hospital.

Dispensaries.—The total number of persons who attended the dispensaries was 102,317, and the number of visits paid by them was 159,779, against 100,059 persons and 158,735 visits during 1903. The total collection for the year was Rs. 2,566·01, against Rs. 2,245·07 in 1903.

18. *Friend-in-Need Society hospital, Jaffna.*—This institution, which receives a grant of money from Government, is worked under the management of a Committee. The total number of cases treated in this hospital during the year was 1,980, of which 1,848 were discharged, 63 died, and 69 remained at the end of the year. The daily average sick was 60·45, and the percentage of deaths to total treated was 3·17.

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(4) Report of H. A. Keegel, L.R.C.P. & S., Edin., Acting Colonial Surgeon, Southern Province.

I assumed charge of the Province on the 11th August, 1904.

Return of Population.

2. I am indebted to the Provincial Registrar, Southern Province, for the following figures :—

Estimated population for 1904	591,238
Number of births registered in 1904	25,452
Number of deaths registered in 1904	14,041
Birth-rate per mille	43·04
Death-rate per mille	23·70

3. As compared with the preceding year, the population of the Province has risen by 11,411. There is, however, a small fall in the birth-rate from 44·9 to 43·4 per mille, and a fall in the death-rate from 24·5 to 23·70 per mille. The death-rate has fallen materially since 1902, when it was 25·7 per mille.

Public Health.

4. The Province has, with the exception of a continuous prevalence of chickenpox, enjoyed an immunity from outbreaks of epidemic disease.

5. Neither cholera nor smallpox was reported during this or the preceding year.

6. *Dysentery* appeared at Balapitimodara, and continued for a time in a mild epidemic form among the poor and destitute, who received aid promptly. The Medical Officer of Balapitiya reports that it is a veritable scourge and is responsible for a large proportion of deaths among the villagers, and that the reason of this is want of sanitation.

7. The sanitary condition of Ambalangoda does not seem to have made much progress, notwithstanding the existence of a Sanitary Board.

8. *Dochmius duodenalis* is reported to be one of the principal causes of death among the cooly patients sent to Deniyaya hospital, though the number of cases treated this year appears to be less than that of the previous year. The Medical Officer reports favourably on thymol followed by the free administration of iron in the treatment of this disease.

9. *Chickenpox* prevailed extensively along the seaboard between Balapitiya and Weligama, and in the Baddegama district, but it did not assume any serious or epidemic form; 362 cases were reported during the year.

10. *Leprosy.*—Twenty-seven cases were reported. Of these, thirteen were sent to the Leper Asylum, and the rest were isolated satisfactorily.

11. *Plague.*—No case of plague occurred during the year.

12. *The Southern Plague Hospital and Bathfield House* were properly equipped and placed in readiness for any emergency. Since the abandonment of the intention to erect a general plague camp and hospital above Watering Point a list of alterations necessary to place Bathfield House in a further state of efficiency has been furnished.

Meteorological Condition.

13. The monsoon changes were accompanied with the periodical outbreaks of fever, none of which were serious.

Sanitary Condition of Towns and Districts.

14. The Medical Officers of the Province seem in their reports to emphasize the need for improvement in the general sanitary condition of the districts in their charge.

15. *Galle.*—As regards Galle, I have called the attention of the Municipal Council to the need of improving the system of conservancy in the filthy suburbs.

16. I am glad to be able to report that at the end of the year arrangements had been made to bring one of the filthiest suburbs of Galle under the operation of the conservancy regulations, and I trust that arrangements will be complete at the end of 1905 to deal similarly with the others.

17. The water supply of Galle is now considered as fairly started, and may within the next two years be an accomplished fact.

18. *Matara.*—Drainage in the Fort and the existence of privies and cesspits is again the burden of the complaint of the Medical Officer at Matara. The year under review seems to have been exceptionally healthy as far as the Matara District is concerned.

19. *Tangalla.*—The Medical Officer, Tangalla, reports unfavourably on the sanitary condition of the town. He enumerates the want of proper drainage, water supply, and conservancy, and urges the establishment of a Local Board. I examined the sanitary condition of this town on the occasion of my last visit, and concur with the recommendation of the Medical Officer.

20. *Hambantota.*—The suggestion to establish a Local Board in this town has, the Medical Officer reports, been abandoned owing to the poverty of the inhabitants, but that can hardly be a reason why the general insanitary condition of Hambantota cannot be improved.

21. *Balapitiya.*—The Sanitary Board at Ambalangoda is making itself useful, but there are many matters requiring attention which I have brought to the notice of the Government Agent. These refer to the general overcrowding, the necessity for more open spaces or road parallels, the construction of cemented drains along the sides of the roads, a better system of general drainage, the construction of latrines for the vagrant population, the opening of public wells, and the setting apart of a public burial ground.

Hospitals and Dispensaries.

22. There are six hospitals in the Province. The total treated in these was 4,124.

23. *Galle Government Civil Hospital.*—The number treated during the year was 1,598, as against 1,812 in 1903. There was a marked decrease in the death-rate per cent., that of 1904 being 5·83, as against 8·19 in 1903. The admissions were restricted to cases which really required hospital relief. Considerable improvements were effected in the hospital during the year. The discipline and the efficiency of the staff were improved; strict supervision was enforced on the attendance on the sick and the cleanliness of the wards. The paying wards were furnished and opened, and the upper floor of the main block was supplemented with balcony latrines and lavatories. The operating room was renovated and furnished at considerable cost with a new outfit of instruments and appliances.

24. *Matara.*—The total treated was 933, and the death-rate was 4·19 per cent. The majority of deaths was due to diarrhœa and debilitated paupers.

25. *Tangalla.*—The total treated during the year was 277 with 13 deaths, or 4·92. Principal diseases treated consist of malarial cachexia and parangi, and there were 93 admissions for injuries. The new hospital was commenced during the year, and remains unfinished.

26. *Hambantota.*—This hospital continues at the old site, but it is to be hoped that a new hospital will be substituted for it. 376 cases were treated, with 9 deaths, or 6·91 per cent.

27. *Balapitiya.*—There were 276 admissions into the hospital, and the mortality was 11·53 per cent. The building for an outdoor dispensary, subscribed by local residents, is fast approaching completion.

28. *Deniyaya.*—The total number treated in this hospital was 432 and the death-rate 15·27.

Special Hospitals.

29. These consist of the *Jail Hospitals* at Galle, Matara, and Tangalla. The figures for these are as follows :—

Station.	Total Number admitted into Prison.	Total Number admitted to Sick List.	Number of Deaths.
Galle	1,671	44	1
Matara	1,188	34	—
Tangalla	916	30	—

30. *Kaluwella Female Hospital.*—117 women voluntarily sought and obtained treatment here. This hospital, which serves to ameliorate a condition which would otherwise sow broadcast over the country the scourge of syphilis, is doing good work.

31. *Galle House of Observation for Mental Diseases.*—The House of Observation, Galle, received 41 persons during the year ; of these, 21 were adjudged insane, 19 were transferred to the Lunatic Asylum, Colombo, and 2 were removed by their friends.

32. *Galle Infectious Diseases Hospitals.*—These consist of the temporary hospital at Dadalla, two miles north of Galle, the Southern Plague Hospital at Unawatuna, and Bathfield House. The Dadalla hospital accommodated ten cases of chickenpox and one case of measles during the year. The buildings are suitable for local requirements. The Southern Plague Hospital and Bathfield House were not used during the year. With the abandonment of the proposal to establish a plague camp and hospital at Watering Point, steps have been taken to complete the equipment and repair of Bathfield House.

Dispensaries.

33. The following is a statement of the outdoor institutions in the Province at the end of 1903 :—

Dispensaries attached to hospitals*	6
Central dispensaries in charge of Apothecaries and District Medical Officers	16
Branch dispensaries visited	17
Itinerating stations	2
Total	41

* Includes outdoor dispensary, Galle.

34. Four new dispensaries were opened during the year. These were at Angunakolapelessa, Migahajandura, Tihagoda, and Mulatiyana. These stations appear to be doing good work.

35. The total number treated at these institutions during the year was 92,037, the total number of visits paid being 196,823.

Port of Galle.

36. The number of vessels which called at this port during 1904 was as follows :—

Steamers	301
Native craft	47
Total	348

an increase of only four vessels during the year. Of this number, 124 were from plague-infected ports, and were treated under the regulations affecting such arrivals.

37. No epidemic disease occurred in the harbour during the year.

38. Disinfection was carried out as before at Trinity House, which during the year was considerably improved. An additional bath was built for females and six cubicles, three in each bathroom, were constructed to serve as dressing-rooms, all the necessary equipment being provided. The disinfector was overhauled and a tank constructed to enable the solution of chloride of calcium to be drawn out while the machine is being cleaned. 451½ cradles of linen were disinfected, 1,139 cargo coolies were disinfected, and 465 deck passengers from infected ports.

39. The fumigation of cargo lighters was also carried out, 210 lighters being thus treated. Not a single rat was found in any of these.

Vaccination.

40. The post of Assistant Superintendent of Vaccination was not filled on the removal of its last incumbent, but an Inspector of Vaccination now supervises the vaccinators. Eleven civil vaccinators, one estate vaccinator, and one female vaccinator work under him. The Calf Vaccine Department was finally closed at the end of last year.

The total vaccinated during 1904 throughout the Province was 22,631, as against 28,654 in 1903. Of these, 19,037 were successful, 2,459 were failures, and 865 absent. The percentage of successful cases to total inspected was 84·07. The majority of the failures were re-vaccinated, and in the case of absentees the matter after reference to the Government Agent in every case ended in prosecution with punishment, if no valid excuse was found to exist.

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(5) REPORT of H. A. Moraes, L.R.C.P. & L.R.C.S., Colonial Surgeon, Eastern Province.

Population, Births, and Deaths.

THE population of the Province on the 31st December, 1904, was 184,504, an increase of 3,171 over that of the previous year. The population of the Batticaloa District was 154,789, being an increase of 2,571 ; and of the Trincomalee District 29,715, an increase of 600.

2. The total number of births registered was 8,428, and of deaths 5,489. In the Batticaloa District the births were 7,089 and deaths 4,518 ; and in the Trincomalee District the births were 1,339 and deaths 971. The births exceeded the deaths by 2,939 : in the Batticaloa District by 2,571 and in the Trincomalee District by 3,547.

3. The total number of births show a decrease of 7, and the total number of deaths an increase of 510, on the previous year. The birth-rate per 1,000 of the population was 45·67, and the death-rate 29·75. The birth-rate shows a decrease of ·84, and the death-rate an increase of 2·30, per 1,000 on the previous year. In the Batticaloa District the birth-rate was 45·79, and the death-rate 29·18 ; and in the Trincomalee District the birth-rate was 45·06, and the death-rate 32·67.

Prevailing Diseases.

4. The diseases most prevalent were malarial fevers and their *sequelæ*, parangi, ulcers, and other skin diseases, rheumatic affections, and diseases of the respiratory and digestive systems.

5. *Malarial diseases.*—Malarial fevers are most prevalent during the wet season, from the beginning of the last to the end of the first quarter, but they also prevail more or less throughout the year. It prevailed to a greater extent than the previous year. It broke out as an epidemic at Kuchchaveli in the Trincomalee District in January and lasted till March. In August it broke out at Pottuvil, and in November at Sammanturai and Akkarai pattu in the Batticaloa District, and is still prevailing in the latter two places. Medical relief was sent to all these places. The type was a mild form of quotidian. Of all diseases treated in the hospitals and dispensaries, viz., 68,233, no less than 27,592 were cases of malarial fevers. The rate per 1,000 of the estimated population who suffered from this disease was 149·54. The largest numbers were treated at the following stations, viz., Eraur 4,968, Valaichenai 3,210, Kalmunai 2,614, Batticaloa 2,512, Nindur 2,360, Kattankudi 1,847, Pottuvil 1,468, and Karankodittivu 1,320.

6. *Parangi.*—This disease comes next in order of prevalence. It has been reported from every station in the Province, and all nationalities of the native population are affected by it, though it is chiefly confined to the poorer classes. The disease is kept going by bad food, impure water, and insanitary habits of the people. The total number of cases treated in the various institutions was 5,928, which is 263 less than the previous year, and as the number for the previous year was less than that for the preceding one, it is to be hoped that the disease is on the decline.

7. The largest numbers were treated at the following stations, viz., Valaichenai 1,987, Eraur 611, Kalmunai 473, Paddirippu 339, Nadukadu 329, Maha-oya 337, and Batticaloa 303.

8. *Ulcers and other skin diseases.*—These were reported from all the stations, and 3,426 cases of ulcers and 5,056 cases of other skin diseases were treated.

9. *Rheumatic affections* were also reported from all the stations, and 2,795 cases were treated.

10. *Diseases of the digestive system.*—The principal of these, dysentery and diarrhœa, prevailed generally, and the former assumed an epidemic form in June at Sammanturai. 1,691 cases of dysentery and 1,444 cases of diarrhœa were treated.

11. *Leprosy.*—This disease is very prevalent in the Kalmunai district, but many cases were also reported from the Batticaloa District. The Medical Officer of Kalmunai thinks that the disease is not on the increase in his district. The total number of cases reported was 109. Of these, 75 are in the Kalmunai district, 30 in the Batticaloa District, and 4 in the Trincomalee District. Of this total, 16 are in the early stage and 93 in the contagious stage. Four lepers from Kalmunai and one from Trincomalee were sent to the Hendala Asylum, and one who was sent from Hendala to Kalmunai as a punishment was sent back after his term had expired. Nine lepers are awaiting admission into the hospital and asylum.

Relative Mortality in Different Seasons.

12. There are practically two seasons, the wet and the dry. The former begins with the setting in of the rains in October and continues till January, after which the nights are dewy and chilly and the days begin to get warm. This is the unhealthiest season of the year, and malarial fevers and chest and bowel complaints are most prevalent and the mortality is consequently higher. The dry season begins in May and lasts till September, and is the healthiest time of the year.

13. The mortality was higher than the previous year by 510. The highest point was reached in December, when it was 186 in the Batticaloa District and 61 in the Trincomalee District in excess of the previous year. The other months in which the mortality rose to some extent over the previous year were July, August, October, and November.

Meteorological Conditions and their Effect on Public Health.

14. The climate of the Eastern Province is generally hot and dry. The monsoon rains during the latter part of the year reduce the temperature to some extent, but the public health suffers owing to the outbreak of fever. The rainfall during this period is very heavy, and the country is flooded in several parts. At the end of January there was a very heavy flood such as had not occurred for several years, and the damage done was considerable. In the middle of the year there was a drought.

Remarks on Particular Diseases.

15. *Smallpox.*—One case of modified smallpox occurred at Kattankudi, a thickly populated Moorish village about four miles from Batticaloa. The man had been to Madras and returned with the disease on him. The case was well isolated and every precaution taken to prevent the spread of the disease, with the result that there were no other cases.

16. *Dysentery.*—This disease broke out in an epidemic form in the village of Sammanturai in the Kalmunai District in the month of June, and lasted till the beginning of July. The Medical Officer of Kalmunai paid regular visits to the village and afforded aid. The total number of cases treated was 103.

17. *Chickenpox.*—This disease broke out at Toppu in the Trincomalee District, where 83 cases were treated ; one case occurred at Maha-oya.

General Sanitary Condition of the Province.

18. The general sanitary condition of the district is not satisfactory. Owing to the nature of the land there are large low-lying tracts which during the rains are transformed into marshes and swamps. Many large villages, such as Kattankudi, Nindur, Karankodittivu, Eraur, Muttur, Valaichenai, &c., are in a most insanitary state ; and as these are principally inhabited by Moors, it is not at all surprising that they are so. The houses are crowded together, are ill-ventilated, and the compounds are used as open latrines.

19. The sanitary condition of Batticaloa is fairly satisfactory, but there is much room for improvement. A better system of drainage is required, but owing to the nature of the land, which is flat, this is a matter of some difficulty. The water supply, which is drawn from wells, is ample, but the water in some places is brackish, and the wells in the dry season are apt to fail. A few public wells are provided.

20. As regards the sanitary condition of Trincomalee, the Medical Officer says :—"Much still remains to be done. The most urgent needs are (1) water supply for the town ; (2) establishment of a larger number of public latrines ; (3) drainage ; (4) improved dwelling-houses ; and (5) extension of the town to avoid overcrowding."

Vaccination.

21. Vaccination was carried on throughout the year. The staff consists of an Inspector and ten vaccinators. Two Moorish and one female vaccinator carry on vaccination almost exclusively among the Moorish community. The work of the vaccinators was regularly inspected by the Inspector, and the town and outdoor vaccination was frequently inspected by me. Vaccination was also carried on by the Medical Officers and apothecaries at their respective stations. During the year 8,141 subjects were vaccinated. Of these, 8,049 were primary vaccinations and 92 re-vaccinations. Of the primary vaccinations, 4,201 were males and 3,848 females ; and of these 1,699 were infants, 6,019 children, and 332 adults. Of the total number vaccinated, 6,229 were successful, 1,685 failed, and 227 were absent.

22. The number vaccinated by the vaccinators was 6,263, and the number vaccinated at the outdoor dispensaries was 1,786. The percentage of successful primary vaccinations to the total inspected by the vaccinators was 80·54, and by the Apothecaries and Medical Officers at the outdoor dispensaries 72·67.

23. The lymph issued from the depôt at Colombo did not always prove effective. In many cases it entirely failed, and in others it was successful with some and unsuccessful with others.

Other Observations.

24. There are two jails in the Province, one at Trincomalee and the other at Batticaloa. The former is only a lock-up. At the Batticaloa jail hospital 33 prisoners were treated, with 3 deaths. The principal diseases were malarial fevers, dysentery, and diarrhœa. The general health and sanitary condition of the jail was satisfactory.

25. *Hospitals and dispensaries.*—There are in the Province three civil, one field, and one leper hospital, and twelve permanent and nine visiting dispensaries. Three of the permanent dispensaries are for irrigation coolies. The dispensary at Nadukadu was made a branch dispensary, and the visiting dispensary at Amparai made a permanent dispensary for the irrigation coolies. All these institutions are doing good work, and are appreciated by the people. 1,975 received treatment at the hospitals and 66,258 at the outdoor dispensaries and visiting stations.

26. At the port of Trincomalee there were 385 arrivals ; of these, 74 were steamers and 311 native vessels. Two native vessels were quarantined. At the port of Batticaloa the arrivals were 179, and of these 30 were steamers and 149 native vessels. None of these vessels were quarantined.

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(6) REPORT of E. de Livera, M.B., C.M., Colonial Surgeon, North-Western and Sabaragamuwa Provinces.

Population.

THE population of the North-Western Province at the end of 1904 was 369,399. The number of births during the year was 16,943, and the number of deaths 9,108. There was, therefore, an excess of 7,835 births over the deaths. The birth-rate per mille was 45·85, and the death-rate 24·65, as against a birth-rate of 46·97 and a death-rate of 27·29 in the previous year. In the three districts of the Province the death-rate in Chilaw was the lowest, being only 17·1, and of Puttalam the highest, being 33·7.

2. In the Province of Sabaragamuwa the population at the end of 1904 was 320,496. The number of births was 13,884, and the number of deaths 8,536, an excess of births over deaths of 5,348. The birth-rate per mille was 43·32, and the death-rate 26·63, as against a birth-rate of 41·40 and a death-rate of 25·40 in 1903. The death-rate in the Ratnapura District was higher than that in the Kegalla District, being 34·48 in the former and 21·9 in the latter. The reverse was the case last year.

3. In 1903 there was an improvement in the death-rate in both Provinces, as compared with the preceding year, and it is satisfactory to notice in the figures for 1904 a further improvement.

Prevalence of Sickness.

4. In my annual report for 1903 I mentioned that the general health of the districts in both the Provinces was exceptionally good, and I have the pleasure of recording that during 1904 the state of health in both the Provinces has been still more satisfactory.

5. No epidemics of smallpox or cholera have occurred. There were only a few small outbreaks of chickenpox and measles in different parts of the Provinces, and some outbreaks of dysentery of a mild type in some villages of the Province of Sabaragamuwa.

6. *Chickenpox.*—Ninety-one cases were reported from seven stations in the North-Western Province, and 147 cases from eleven stations in the Province of Sabaragamuwa.

7. *Dysentery.*—Outbreaks occurred in some villages in the Ratnapura and Kegalla Districts, not far from the dispensaries of Pelmadulla, Godakawela, and Kalawana and the dispensary at Aranayake, and the localities were visited by the officers in charge of these stations, and measures were successfully adopted to prevent the spread of the disease.

8. *Measles.*—There were 14 cases reported from the North-Western Province and 26 from the Province of Sabaragamuwa.

9. In the six hospitals of the North-Western Province, viz., Kurunegala, Puttalam, Chilaw, Marawila, Nikaweratiya, and Dandugamuwa, 5,076 cases were treated, and there were 331 deaths, giving a percentage of 6·52 deaths to total treated, and in the six hospitals of the Province of Sabaragamuwa, viz., Ratnapura, Kegalla, Karawanella, Balangoda, Rakwana, and Kolonna, there were 5,472 cases treated and 605 deaths, the percentage of deaths to total treated being 11·05. The higher mortality in the latter Province was probably due to the larger proportion of estate coolies who, on account of

their low recuperative power, succumb easily to disease. The number of cases treated in both the Provinces was a little less than in the previous year.

10. There were 1,472 estate labourers treated in the district hospitals of the Province of Sabaragamuwa, and the number of deaths among them was 288, which is 19·55 per cent. of the total number treated. In the North-Western Province there were only 162 labourers treated (of whom 25 died) at the Kurunegala hospital.

11. The number treated in the outdoor dispensaries and itinerating stations of the North-Western Province, of which there are thirty-six, was 144,150, as against 164,664 treated in the previous year, and the number treated in the thirty dispensaries and itinerating stations of the Province of Sabaragamuwa was 70,948, as against 92,903 treated in 1903. The amount of money collected at the dispensaries of the North-Western Province was Rs. 2,787·66, and at those in the Province of Sabaragamuwa Rs. 1,521·66.

12. The decrease in the numbers treated both in the hospitals and dispensaries is another proof of the comparative healthiness of the year under review.

Remarks on Particular Diseases.

13. The diseases chiefly prevalent were malarial fevers, dysentery, and diarrhœa, parangi, ulcers and skin diseases, rheumatic affections, and diseases of the respiratory system.

14. *Malarial fever.*—This was the commonest disease. There were 56,139 cases of malarial diseases treated in the North-Western Province, as against 56,462 treated in the previous year, and in the Province of Sabaragamuwa the number treated was 16,566 in 1904, as against 20,714 in 1903. The numbers have been decreasing every year, which is a satisfactory sign. The stations where the largest numbers were treated were Narammala, Anamaduwa, Galgamuwa, Nikaweratiya, Balalla, Dandugamuwa, Wariapola, Puttalam, and Kurunegala in the North-Western Province; and Balangoda, Karawanella, Ratnapura, Kolonna, Mahawelatenna, Parakaduwa, and Kegalla in the Province of Sabaragamuwa.

15. *Dysentery and diarrhœa.*—There were 4,886 cases treated in the North-Western Province and 4,229 cases treated in the Province of Sabaragamuwa. These diseases are responsible for a large proportion of the deaths, especially among Malabars in the hospitals.

16. *Parangi.*—16,608 cases were treated in the North-Western Province and 1,564 cases in the Province of Sabaragamuwa. There has not been a marked decrease in the numbers treated for this disease. The stations in which the disease is most prevalent are Nikaweratiya, Dandugamuwa, Balalla, Galgamuwa, Kurunegala, Anamaduwa, and Andigama in the North-Western Province; and Kolonna, Godakawela, and Embilipitiya in the Province of Sabaragamuwa.

17. *Pneumonia.*—There were 80 cases treated in the hospitals of the North-Western Province—48 in Kurunegala alone—and 84 cases in the hopitals of the Province of Sabaragamuwa. The numbers were less than in the previous years.

18. *Phthisis pulmonalis.*—There were 99 cases in the hospitals of the North-Western Province and 84 in those of the Province of Sabaragamuwa. The largest numbers were reported from Kurunegala, Karawanella, Balangoda, Kegalla, and Marawila.

19. *Cancer.*—Thirty cases were under treatment in the different hospitals of both the Provinces: 8 at Kurunegala, 2 at Nikaweratiya, 5 at Ratnapura, 10 at Kegalla, 3 at Karawanella, and 2 at Balangoda.

20. *Anchylostomiasis.*—425 cases were treated for this disease in the district hospitals of the Province of Sabaragamuwa, as against 335 treated in the previous year, and 60 cases in the Kurunegala hospital, as against 18 in 1903. The largest numbers were treated at Karawanella (202) and Balangoda (169). The disease appears to be undoubtedly on the increase both among the Malabar coolies and the Sinhalese.

21. *Leprosy.*—Seventeen cases of leprosy have been reported from Ratnapura, Karawanella, Balangoda, and Kegalla, and 2 from Kurunegala. There were 29 cases reported in the previous year, and many of them have been sent to the Asylum at Hendala.

22.—*Enteric fever.*—Six cases were treated in the hospital at Kurunegala, 3 at Balangoda, and 6 at Kegalla. Of these, 4 proved fatal.

Meteorological Conditions and their Effect on Public Health.

23. The rainfall during 1904 was not so high as in the previous year in both Provinces, and this may account for the less prevalence of sickness in the year under review. Kitulgala, as usual, records the highest rainfall, being 206·72, and Kolonna the lowest, 44·96, in the Province of Sabaragamuwa. In the North-Western Province the highest rainfall was recorded in Kurunegala, 84·88, and the lowest in Puttalam, 35·18. Fever was most prevalent in the wet weather, or just after the heavy rains during the north-east monsoon, in the North-Western Province, chiefly in November, December, and January, and during the south-west monsoon in the Province of Sabaragamuwa, chiefly in May, June, and July. The outbreaks of dysentery in the Province of Sabaragamuwa occurred in the last quarter of the year after the first showers of the north-west monsoon, when the water in streams and shallow wells was likely to be contaminated.

Sanitary Conditions of the Chief Towns.

24. *Kurunegala.*—The drainage is still very defective. The water supply is not satisfactory, but the Local Board intend shortly to carry out a scheme for a better water supply.

25. *Puttalam.*—There is practically no drainage. A good water supply is still a much-felt want.

26. *Chilaw.*—The Medical Officer reports that the drainage is satisfactory, but there is much overcrowding and congestion in some parts of the town, specially in the fishers' quarters.

27. *Ratnapura.*—Drains have been lately improved, but the water supply is insufficient.

28. *Kegalla.*—The drains are defective and conservancy is unsatisfactory. More public latrines are required, and cesspits should be discontinued. Public wells are also insufficient.

29. *Balangoda.*—The drainage is far from being satisfactory, not being built of brick and cement, and there being no incline in some places water collects and stagnates. There is a marshy spot in the heart of the town which requiref to be drained. The public well is not central enough for the convenience of the people.

30. *Karawanella.*—Water supply is abundant and of good quality. Public latrines require to be provided at Karawanella and Ruanwella.

Vaccination.

31. In the North-Western Province there were 12,194 successful vaccinations, as against 1,023 in the previous year, and in the Province of Sabaragamuwa there were 10,174 successful vaccinations, as against 12,499 in 1903. Six vaccinators were employed in the former Province and ten in the latter, including four estate vaccinators. A female vaccinator also has been working in both the Provinces. An extra vaccinator has been employed to carry on vaccination in the Wanni district since September last.

Port Duties.

32. 283 vessels were inspected at the port at Kalpitiya by the Medical Officers, as against 319 in the previous year.

Other Observations.

33. The field hospital at Godakawela was closed on 15th February, and the dispensary there only has been continued. Two parangi wards were opened in connection with Rakwana hospital for the accommodation of parangi patients, served by the Godakawela hospital.

34. A new dispensary was opened at Mawatagama, eight miles distant from Kurunegala, on the road to Kandy, in May, and it is visited once a week by the additional apothecary of the Kurunegala hospital. The building was generously provided by a wealthy resident, Mr. W. D. Albert.

35. A field hospital is required at Pellebedda to take the place of the Godakawela hospital, and I would also again recommend, as I did last year, the re-opening of the field hospital at Anamaduwa, which was abandoned some years ago, and the opening of a dispensary at Nawattagama in the Puttalam District for the treatment of parangi cases.

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(7) REPORT of F. Oorloff, M.B., C.M., Colonial Surgeon, Province of Uva.

THE means within the reach of the people for obtaining treatment for sickness consisted of 6 hospitals, 18 dispensaries, and 12 itinerating stations.

2. The following dispensaries and hospital are required to provide a complete scheme for the wants of the Province of Uva :—

(*a*) A hospital at Muppane and the conversion of the Buttala hospital into a dispensary. This is necessary as the estates are closer to Muppane and the number of inhabitants in Muppane and the surrounding villages is also much larger.

(*b*) Branch dispensaries at the following villages, Ridimaliyadda, Kotabowa, Bogahakumbura, Ekiriya, and Bubula.

Population : Birth and Death-rates.

3. The estimated population of the Province at the middle of 1904 was 190,671; this gives an increase of 1,086 over the population at the end of 1903. 8,101 births and 6,369 deaths were registered. The birth-rate was 42·31 per thousand as against 44·01, and the death-rate 33·21 per thousand as against 33·6 in the previous year.

Public Health.

4. The public health has been good. The diseases most prevalent were malaria, dysentery, respiratory affections, rheumatism, and parangi.

5. *Malarial fever.*—During the year, and especially during the third and fourth quarters, this disease prevailed to a much greater extent than it had done for several years past. There was no rise in the rainfall to account for the rise in malaria. On the contrary, in certain districts the rainfall had been less than it had been during the two previous years. In Lunugala 2,062 cases were treated. These figures far exceed the numbers treated during the past five years. A very large number of cases occurred among the labourers of three estates. The cause was very apparent, as hundreds of acres of land that had been fallow for years were being cultivated. The largest number of cases were treated during the months of August, September, and October. The number treated during each of these months exceeded the total number treated during the first half of the year. Although the rainfall was comparatively small, the soil disturbance meant additional puddles for the breeding of mosquitoes.

6. *Dysentery.*—This disease comes next in importance to malaria. Those suffering from malaria were chiefly attacked by it, and hence the largest number of cases occurred when malaria was most prevalent, viz., during the third and fourth quarters. The direct mortality from it was not very high, and it did not assume an epidemic form.

7. *Respiratory diseases and rheumatism.*—These diseases were prevalent, as in the previous year, during the first and last quarters.

8. *Parangi.*—This disease is almost exclusively found among the poor in the low-country. This fact warrants the conclusion that with the extension of irrigation and the consequent amelioration of the condition of the people and the improvement of sanitation there will be fewer victims to it.

Ralative Mortality in the Different Seasons

9. The death-rate was highest during the third and fourth quarters of the year, which was coincident with the prevalence of malaria, dysentery, and pneumonia during the same period.

Meteorological Conditions and their Relationship to Diseases.

10. The rainfall was heaviest during the first and last quarters, *i.e.*, during the north-east monsoon. During this season the prevailing diseases were malaria, dysentery, pneumonia, and rheumatism. The dry season corresponds with the south-west monsoon, which lasts from April to September. During this season parangi and skin affections chiefly prevailed, and in addition, during the third quarter, malaria prevailed to a great extent.

Particular Diseases.

11. Not a single case of cholera or smallpox occurred during the year.

12. *Chickenpox.*—104 cases of this disease were reported from eight stations.

13. *Measles.*—Three cases were reported from two stations.

General Sanitary Condition of the Province.

14. The general sanitary condition of the Province is in about the same condition as it was last year.

15. *Badulla.*—The water supply is often inadequate for the wants of the inhabitants of the town, and several families are put to much inconvenience from the want of a water-service in their houses. The drainage continues to be defective. Public latrine accommodation is deficient. The scavenging was satisfactorily done.

16. *Bandarawela.*—A good water supply is sorely needed. The scavenging was well attended to. The condition of the back premises of the bazaar houses continues to be in a very unsatisfactory condition for want of drains, light, and ventilation.

17. *Haputale.*—The water service is satisfactory. Drainage is still in need of improvement The scavenging was properly attended to.

18. *Haldummulla.*—The water supply is pretty good. The drainage is defective. Public latrine accommodation is much needed.

19. *Koslanda.*—The water supply is good. The drainage is defective. Public latrine accommodation is wanting.

20. *Passara.*—The sanitation was well attended to. A good water service is much needed. Public latrine accommodation is also needed.

21. *Lunugala.*—The sanitary condition is not satisfactory. The drainage is bad. Concrete drains should be constructed to prevent the stagnation of water, which at present occurs in the existing drains. The cattle sheds in the bazaar should be removed. The stream which supplies the town is liable to pollution. This, I am informed, will soon be remedied by the extension of the water service from the hospital to the bazaar street. Another great need is a public latrine. I suggest that Lunugala be brought under the operation of the Small Towns Ordinance.

22. *Welimada.*—The water supply and drainage are bad. I repeat the suggestion made by me some time ago, viz., that deep wells properly protected from pollution be built.

Vaccination.

23. Six vaccinators (four district and two estate) were employed during the year under review. The Medical Officers and apothecaries also carried on vaccination at the outdoor dispensaries. The work of the vaccinators was regularly inspected by the Inspector of Vaccination and the vaccination at the outdoor dispensary, Badulla, was regularly inspected by the Colonial Surgeon.

24. The following table shows the number of persons vaccinated, with results, during 1903 and 1904:—

Primary Vaccination.

	1903.	1904.
Number vaccinated	6,335	6,059
Number successful	5,722	5,477
Number unsuccessful	189	273
Number unknown	424	309
Percentage of successful to total inspected	96·80	95·25

There was no re-vaccination performed during the year.

Prosecutions under the Vaccination Ordinance.

25. There were 112 prosecutions against 63 in the previous year.

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(8) REPORT of the Director of the Bacteriological Institute, Dr. Aldo Castellani, M.D., Florence.

I HAVE the honour to submit to you the report of this institution for the year 1904.

2. *Introduction.*—I took charge of the Bacteriological Institute on the 30th December, 1903, relieving the Acting Director, Dr. S. C. Paul. I found the institute fairly well equipped for the usual bacteriological work and well organized. The laboratory was left in perfect working order by my predecessor, Dr. S. C. Paul. The Assistant, Mr. Arthur C. de Silva, remained till February, when he was appointed Medical Officer of Ja-ela, his place being taken by Mr. E. F. A. Kemp. Both of these Assistants have given me complete satisfaction. The first laboratory attendant, Albert Gurusinghe, has also done his work well. The appointment of a laboratory boy has been recently sanctioned by Government.

3. *Bacteriological examinations carried out during the year.*—The total number of specimens submitted for examination during the year was 1,628, as against 1,111 during the previous year. The following is a list of specimens examined :—

Blood for Widal reaction	876
Do. malaria parasites	325
Do. Filaria nocturna (Manson)	3
Do. streptococci	3
Do. tubercle Bacillus	1
Do. lepra bacillus	1
Do. special bacteriological examination	5
Bacteriological examination of water	11
Do. do. soda water	1
Do. do. tonic water	1
Do. do. lemonade	1
Do. do. soil	1
Do. do. urine	2
Evacuations, &c., for cholera vibrio	11
Examination of meat for parasites	1
Do. dogs for rabies	2
Do. water for mosquito's larvæ	3
Mesenteric glands for tubercle bacillus	8
Bacteriological examination of various fluids	2
Membrane for diphtheria bacillus	11

Nasal secretion for lepra bacillus	1
Pus for microscopical examination	2
Sputum for tubercle bacillus	277
Stools for Amœba coli	7
Urine for tubercle bacillus	56
Urine for gonococci	2
Urethral and vaginal discharge, &c., for gonococci	14

4. The following is a list of the various institutions from which specimens have been received :—

Government Civil Hospital, Colombo	537
Lady Havelock Hospital	150
Borella Convict Hospital	75
Police Hospital, Borella	5
Military Department	6
Outstation Hospitals	117
Private Practitioners, Municipal, and Local Boards	106
Mahara Jail Hospital	517
District Medical Officer, Ramboda	58
Government Civil Hospital, Kandy	29
Leper Asylum, Hendala	1
Welikada Jail	3
Government Dairy, Colombo	2
Female Outdoor Dispensary, Borella	11
Jail Hospital, Kandy	11
Total	1,628

The total income of the institute from fees recovered from medical practitioners, &c., amounted to Rs. 418, against Rs. 325·50 of the previous year ; of this, Government has waived Rs. 31·50 ; Rs. 326·50 was deposited in the Bank of Madras on Government account. The total of the amount in arrears is Rs. 60.

5. *Special investigations : researches on epidemic cerebro-spinal meningitis.*—I have had opportunity to examine (post-mortem) two well-marked cases of this disease, both in Sinhalese subjects. The anatomical appearances were those usually found in the disease, the meningeal vessels were greatly engorged, and there was a large amount of thick pus lying beneath the pia. In both cases, from the pus taken with all aseptic precautions, an organism with all the characters of the diplococcus intracellularis meningitidis (Weichselbaum) was grown. The organism in some stained preparations had almost the appearance of the gonococcus, and was contained chiefly in the protoplasm of the leucocytes, though a few individuals might be free. Rarely the cocci were arranged in short chains. The staining by Gram's method was practically negative ; though in a few specimens some of the cocci might be seen still partly stained, most of them were completely decolourized. The organism did not grow well on the usual media, while it grew abundantly on media mixed with blood serum. The organism was very slightly virulent to animals. It is clear, therefore, that in my two cases I had to do with the meningococcus of the true Weichselbaum type, and not with the meningococcus of the Jaeger or Jaeger-Heubner type, which is generally well-stained by Gram, is very virulent, and grows well on the ordinary culture media, like agar, gelatine, &c. With respect to other varieties of meningitis, the tubercular form is comparatively frequent.

6. *Diphtheria.*—It is generally admitted by the writers on Tropical Medicine that diphtheria is infrequent in sub-tropical countries and extremely rare or absent in the tropics, and that when it occurs there it mostly exhibits a mild character.

In Ceylon several authorities are of opinion that it does not occur, and that the few cases met with are only imported cases. This opinion cannot hold good after the researches of Sir Allan Perry, Fernando, Silva, Vanderstraaten, &c., and more recently myself. During the year I have had opportunity to study six cases of the disease, five of which died. From the results of my investigation I can state that all the races inhabiting the Island may be attacked, and that the type of the disease may be very malignant. As regards the treatment employed in those cases, the diphtheria anti-toxin, for various reasons, could unfortunately be used in two cases only.

In my opinion there cannot be any doubt as to the great efficacy of the anti-diphtheria serum in tropical countries, provided the serum has been well kept, is used in proper doses, and possibly at the earliest stage of the malady. Personally, I am in favour of using very large repeated doses (first dose no less than 4,000 units) and of inoculating the anti-toxin directly into the veins in very severe cases. The only unpleasant effects caused by the serum which I have ever seen are various forms of rashes, which however very soon disappear.

My observations, together with the previous ones of Sir Allan Perry, &c., in Ceylon, and Drs. Cornwall, Plehn, &c., in other parts of the tropics, tend to demonstrate that the disease is not limited simply to the temperate and sub-tropical zone, but it is a true cosmopolitan disease. I think it is necessary to emphasize the fact that the disease occurs in the tropics with a certain frequency, as, in my opinion, there can be very little doubt that the general belief that it is absent has led to many cases being overlooked and lives lost through not having recourse to the proper specific treatment.

7. *Typhoid fever : remarks on the bacteriological diagnosis of the disease.*—Every medical man with experience in the tropics has noticed that typhoid fever there much more frequently than in temperate climates presents an atypical clinical course. The temperature chart may be very irregular, sometimes of a well-marked remittent type ; the enlargement of the spleen may be absent during the whole duration of the disease, or in other cases it may be much more enlarged and harder than is usually the case ; intestinal symptoms may be different from those generally found in the malady. In a few cases some of the peculiarities met with, especially the very irregular type of temperature, are explained by the presence of two infections : typhoid and malaria. Many who have once had an attack of subtertian may harbour in their spleen the malaria parasites for a long time without any symptoms. As soon, however, as the resistance of the organism is diminished by any cause like a chill, a disorder in diatetics, &c., an attack of malaria fever develops. In these subjects, when a typhoid infection sets in, the malaria breaks out again and probably modifies the course of the temperature. It must be admitted, however, that in the largest number of cases no such

explanations can be found. With these clinical difficulties the bacteriological diagnosis of typhoid acquires in the tropics even more importance than in temperate zones. This diagnosis is based on the following researches :—

(1) Widal test.
(2) Puncture of the spleen.
(3) Bacteriological examination of the stools and urine.
(4) Search for the typhoid bacillus in the blood.

8. *Widal reaction.*—I am frequently asked how much reliance can be placed upon this test. Some medical practitioners are perhaps inclined to be too sceptical, while others tend to base their diagnosis solely on the result of the test. In my opinion there cannot be any doubt of the great value of the reaction for the diagnosis of typhoid fever, provided due attention be paid to the following points :—

(1) The reaction is generally absent at the commencement of the disease.
(2) In some rare cases (in my experience generally of a very malignant type) the test may remain negative during the whole course of the malady.
(3) The reaction is negative in para-typhoid, a disease which clinically can scarcely be differentiated from typhoid. This disease also occurs in the tropics.
(4) When the reaction is positive it should be remembered that the blood may contain specific agglutinins many years after the typhoid infection is over. For example, I may say that the Institute Assistant, Mr. Kemp, suffered from typhoid three years ago, and his blood still gives a well-marked Widal reaction. In the event of illness in such a case the medical man who would rely solely on the Widal test would easily fall into error.
(5) The blood should be sufficiently diluted ; a dilution of 1 in 40 at least is advisable.

9. *Spleen puncture.*—After thorough disinfection of the spleen region a puncture in the point of maximum dullness is made by means of a sterile syringe supplied with a long needle. A few drops of spleen blood can be generally drawn with facility. The blood is immediately inoculated in a few tubes of bouillon, and agar plates are made. According to my personal experience in Europe the method gives good results, but is certainly not advisable as a routine investigation.

10. *Bacteriological examination of the stools and urine.*—The search for the typhoid bacillus in the stools has been tried by many authors. Among the innumerable special media suggested, the Elsner iodide potato gelatine, the Elsner-Moore medium, and the Drigalskj medium are perhaps the best. In temperate climates the Elsner gelatine may be used with advantage. According to Elsner, Sterling, &c., practically no other bacteria grow on this medium, except the bacillus typhosus and the bacillus coli. The bacillus coli grows on it rapidly, while the bacillus typhosus develops very slowly, forming after forty-one hours small delicate colonies. As regards the search for the typhoid bacilli in the urine, the media mentioned for the fæces may be used, as well as the usual media. The urine should be taken aseptically by means of a sterile catheter. In the male it is not generally necessary to use the catheter. It is well known that the male bladder is normally aseptic ; germs are found only in the urethra, generally the anterior part of it. It is sufficient, therefore after having purified the glans and meatus with a disinfecting lotion, to make the patient pass his urine ; the urethral germs which might render more difficult the search for typhoid bacillus will probably pass with the first portion of the urine, which is thrown away, while the last portion is collected in a sterile flask and examined. The frequency of the presence of the typhoid bacillus in the urine varies greatly ; in some epidemics it has been found in 40–50 to 70 per cent. of the cases. It is interesting to note that the bacillus may be found in the urine and also in the stools for several weeks, and even months, after the patient has completely recovered. The importance of this fact is obvious in the spreading of the disease. The disinfection of the urine and stools of typhoid patients should be continued long after the disease is clinically terminated. In some cases the administration of internal urinary disinfectants in convalescents from typhoid is also advisable. The best drug for this purpose is probably urothropin, which speedily improves most cases of typhoid bacteruria. It is to be remembered that though the bacilli are present in the urine, the latter may be chemically quite normal. On the whole, I do not think the search for the typhoid bacillus in the urine and stools for diagnostic purposes has much practical importance, as it requires too much time and the results are not very constant.

11. *Search for the typhoid bacillus in the blood : "Dilution method."*—This investigation may be made on the blood of the roseolæ and on the blood of the general circulation. For obvious reasons the investigation of the roseolæ is not possible in coloured races. As regards the search for the bacillus in the blood of the general circulation, the so-called *dilution method* first introduced by me in 1897 generally gives good results. The technique is as follows : the region of the bend of the elbow is cleaned with spirit or ether and then disinfected with a sublimate lotion. By means of a sterilized syringe (an all-glass syringe which can be thoroughly sterilized is advisable) a few cubic centimeters of blood are then taken aseptically from a vein of the region. The blood is immediately added to several large flasks (at least three), each containing 300 c. c. of faintly alkaline broth. The flasks are incubated at blood heat. Generally after twelve to twenty hours in positive cases the broth becomes cloudy and shows growth of the germ. The germ of course must be further identified in the usual way by means of cultivation on potatoes, milk, sugar-agar, &c.

The novelty of the method is the dilution of the blood in a very large amount of broth instead of employing the usual small quantities of the medium. This simple innovation makes all the difference in the results. With the old methods the majority of observers (Chantenesse and Widal, Frankel, &c.) failed to detect the bacilli. Others (Silvestrini, Tiemrich, &c.) have obtained an extremely low percentage of positive results. With the *dilution method* the germ has been found by Schotmuller, Auerbach, Widal, Puiat, Pegris, &c., in a percentage varying from 70 per cent. to 100 per cent.

The satisfactory results are probably due to the fact that by the blood being greatly diluted the agglutinins are also diluted and any bactericidal properties of the blood serum greatly weakened. The advantage of the method is that it may lead to the correct diagnosis in obscure case, when, for instance, the Widal reaction is negative. It also facilitates the diagnosis of multiple infections, as, for instance, typhoid and coli, typhoid and streptococcus. typhoid and staphylococcus, &c. Perguis has recently slightly modified my method, thereby increasing its practical value. (See Dr. Jean Perguis: Presence du bacille d'Eberth dans le sang des typhiques-Recherche par le procedé de Castellani modifié ; Paris–Michalon Ed., 1904.)

12. *Para-typhoid.*—A well-marked case of this affection was observed in the Lady Havelock Hospital by Mrs. Fysh and Miss de Boer. The patient, a Sinhalese woman, showed the clinical symptoms of enteric. The Widal test, however, repeated twice, remained negative. At the autopsy the usual intestinal lesions of typhoid were found. Miss de Boer kindly sent me the intestine to be examined. The mucosa of the ileum was swollen and congested, and showed many ulcers absolutely identical with typhoid ulceration. The mesenteric glands were enlarged. From one of these glands I could grow a germ with all the characteristics of the para-typhus bacillus of the type A. This germ is not agglutinated by the blood of typhoid patients. This is, so far as I know, the first case of para-typhoid described in Ceylon and in India. The occurrence of para-typhoid probably explains the negative result of the Widal test in some of the cases which present all the clinical symptoms of enteric.

13. *Influenza.*—The first outbreak of the disease in Ceylon occurred (according to the data so thoroughly collected by Clemow) in February, 1890, and was apparently caused by the arrival of H. M. S. Himalaya, on board of which there were many cases. The first to be attacked were the pilot's boatmen. Other epidemics have been recorded later, and sporadic cases have been frequently met with. As far as I know the bacteriological diagnosis of the disease has never been made in the Island. In January, 1904, I had opportunity to study two typical cases in children in Colombo. The sputum of the patients showed staphylococci and streptococci and diplococci, and in addition contained small fine rods easily stained by diluted Zihel fuchsine. The rods did not take the Gram and did not grow on the usual media. On blood agar the organism grew fairly well, forming the well-known dew-drop like colonies. I saw many other cases on board an Italian man-of-war, which arrived in harbour some months later.

14. *Malaria.*—A very large number of blood examinations for malaria have been taken during the year. According to my experience by far the most frequent form in this Island is the subtertian. The rarest is the quartan. I have had opportunity to examine a patient presenting in his blood numerous quartan parasites, who did not show at all the typical temperature chart. The temperature remained above normal for several days and was most irregular, more like what is found in some forms of subtertian. Though I examined the blood several times, I could never find ring forms or crescents ; therefore the patient was probably not a case of mixed malaria infection (quartan and subtertian), as at first I was inclined to suspect, to explain the peculiar course of the temperature. The spleen, however, was not punctured. The fever yielded to hypodermic injections of quinine. Some native children, apparently healthy (Sinhalese and Tamils), inhabiting houses near the Bacteriological Institute (Borella) were examined for malaria parasites ; three out of twelve presented an enlarged spleen, but had no fever, and apparently were quite healthy. In one of them a few crescents were found. It would appear that the percentage of children harbouring malaria parasites in Colombo—at least in the quarter where the Bacteriological Institute is situated—is not very high.

15. *Dysentery.*—This disease is perhaps the most important in the Island ; its frequency is second to malaria only, and the mortality due to it exceeds by far that of typhoid and malaria together. At the suggestion of Sir Allan Perry I have undertaken some investigations into the etiology of the disease in Ceylon. My complete researches have been published *in extenso* in the Journal of Hygiene, 1904, vol. IV. Therefore I may limit myself to state here the conclusions to which I have arrived. I have examined bacteriologically thirty-four cases of dysentery occurring in Ceylon. In twenty-nine of these cases the presence of the bacillus dysentericus (Kruse) was demonstrated in the intestinal contents or stools. In one case the bacillus could not be grown, but the blood of the patient agglutinated the bacillus. In four cases bacilli closely resembling Kruse's bacillus, but not identical, were grown. In three cases a large number of amœbæ were found in the stools, whilst the presence of bacillus dysenteriæ (Kruse–Shiga) could not be demonstrated. The blood of these patients did not agglutinate the bacillus. From my researches it appears that—

(1) In Ceylon there are various forms of dysentery. This has a practical importance, as the same treatment is not good for all the varieties of the malady. The ipecacuanha treatment, for instance, which gives good results in many cases of bacterial dysentery, has no effect according to my experience in Africa on the amœbic form.

(2) By far the most frequent form is the bacterial due to the bacillus dysentericus (Kruse).

(3) A rare form is due to bacilli very nearly related to the typical Kruse-Shiga bacillus. Clinically this form shows generally less severe symptoms than the variety due to the Kruse bacillus. Such a form might be called para-dysentery in analogy to para-typhoid, leaving the term pseudo-dysentery to denote forms of disease absolutely different from dysentery, as, for instance, pseudo-dysentery from Bilharzia (see Low and Castellani, Zeitschrf Archiv fue Tropen Hygiene, 1904, Ed. VIII.). There is an acute form and a chronic form of para-dysentery.

(4) A third form of dysentery is represented by amœbic dysentery, and the species of amœba which causes it in Ceylon is probably amœba histolytica (Schaudinn). This form of dysentery is apparently not very frequent in the Island.

16. *Anti-dysentery vaccination.*—I have prepared a polivalent vaccine for dysentery and para-dysentery. The method of preparing it is, on the whole, the same simple one followed by Hafkine for the plague vaccine, Wright for the typhoid vaccine, &c. The only modification I have introduced is that of using peptone water cultures instead of broth cultures. The reason of this change is that, according to my experience, the anti-dysentery vaccine prepared with broth cultures gives rise to very severe symptoms : great tenderness and redness of the skin, very often enlargement of the neighbouring glands, and fever, which may run very high. I have seen a person inoculated with such a vaccine prevented from attending to his work for two weeks. It occurred to me, then, to use peptone water instead of broth. I may state at once that this simple modification of the technique is most satisfactory, as the irritating property of the vaccine practically disappears without diminishing the vaccinating power. The different strains of dysentery and para-dysentery are

grown in peptone water tubes for four days at blood temperature. Then they are kept for one hour at the temperature of 65° C. Using all aseptic precautions, the different cultures are mixed. Generally I mixed them in this proportion: dysentery three parts, para-dysentery one part of each strain (I have used three different strains of para-dysentery). This mixture is the polivalent vaccine. Of this vaccine I inoculate 1 c. c. (sometimes ½ c. c.); the inoculation is repeated in some cases two weeks after. The inoculation is made by means of a sterilized Pravax syringe under the skin previously disinfected with ether and carbolic lotion. At first I used to make the inoculation under the skin of the forearm, but afterwards I have found more convenient to do it under the skin of the shoulder and make it rather deeply. In many cases the inoculation is practically followed by no local symptoms. In other cases it is followed after five or six hours by mild signs of reaction, some little tenderness and redness of the skin at the place of inoculation. In some rare instances the temperature may rise to 37·5° or 38° C., which however does not last. So far I have never seen a case of abscess. My experiments are not yet numerous enough to come to any definite conclusions. From my investigation it would appear, however, that—

(1) The inoculation of the anti-dysentery vaccine is harmless.

(2) After 24 to 48 hours the blood of the people inoculated agglutinates the bacillus dysentericus (Kruse) and the various strains of para-dysentery with which the vaccine has been prepared. The agglutination does not last long. It disappears after a few days to a few weeks.

(3) As far as my researches permit me to say, a certain degree of immunization is attained for dysentery and para-dysentery by the inoculation. This immunization, however, lasts only a short time, not over some weeks or a few months at the utmost. Naturally the immunization attained concerns only the bacillus dysentericus (Kruse) and the strains of para-dysentery with which the vaccine has been prepared. The subject inoculated does not become immunized against forms of para-dysentery, the strains of which have not been used in the preparation of the vaccine, nor against amœbic dysentery. One of the inoculated persons developed dysentery symptoms six weeks after the inoculations. The bacteriological examination of the stools showed the presence of a bacillus para-dysentericus, which was different, biologically (agglutination), to any of the strains used in the preparation of the vaccine.

In conclusion, while I would not advise an anti-dysentery vaccination under ordinary circumstances, I am of opinion that it might be useful in case of a severe epidemic.

17. *Hydrophobia.*—Several carcases of dogs have been sent to the Institute from the police for rabies investigation. The investigation has always been made according to the sub-dural inoculation method in rabbits. In one case the result was positive and the rabbit inoculated with the brain substance of the suspected dog presented all the typical signs of the disease (paralysis of the hind legs, &c.). The dog had bitten two persons. These were advised by Sir Allan Perry and myself to go as soon as possible to a Pasteur Institute. One went to Saigon and the other to Kasauli. Both underwent the Pasteur treatment with the best results.

18. *Parasites: Leishman-Donovan bodies.*—The organism discovered by Leishman, Donovan, and Cunningham has recently assumed a great importance in Tropical Pathology as the cause of Kalazar and possibly other affections. On the nature of these bodies there has been the greatest difference of opinion; Laveran and Mesnil consider it a piroplasma (Piroplasma Donovani); Ross forms a new genus for this body: the genus Leishmania (Leishmania Donovani). Leishman and Rogers consider it a stage of development of the trypanosome. This opinion is most probably the correct one after the discovery of Rogers, who has been able to cultivate the bodies and see their development into trypanosomes. In Ceylon the parasite had never been observed. I observed these bodies in a case in which the symptoms of tropical splenomegaly were practically absent. David Saram, Sinhalese, male, age 20, was for a few days in the General Hospital of Colombo under care of Dr. Sinnetamby. The patient was affected with lobar pneumonia, and showed all the usual symptoms of the disease. Died on the 4th May, 1904, at 6 A.M. I held the post-mortem examination at 11.45 A.M. of the same day. The body was in a fairly good state of nutrition. No cutaneous eruptions, no bedsores. *Rigor mortis* present.

Thoracic viscera: Parietal pericardium has a normal appearance. Pericardial fluid not increased. The heart is slightly enlarged; valves normal. Right lung healthy. The whole lower lobe of left lung is consolidated, airless, the pleural surface shows a fibrinous exudate, cut surface is dark red, and has a granular appearance.

Abdominal viscera: No effusion in the peritoneal cavity. Liver enlarged, shows signs of fatty degeneration. Spleen somewhat enlarged but not hard, no signs of perisplenitis, cut surface of a vivid red, pulp is soft. Kidneys are both enlarged and congested. Pancreas healthy. Intestine normal, no entozoa.

From the spleen I made two smears as a matter of routine work. The films were stained by me some hours later in the Bacteriological Institute with the Leishman modification of Romanowsky's method. Both films presented a very large number of Donovan-Leishman bodies. I was surprised, as the post-mortem examination of the body had not shown the features of a spleno-megaly. The bodies were well stained and identical to the bodies I have seen in the preparations of Donovan, Manson, and Low. The free forms were abundant; some embedded forms were also present, though, as a rule, according to some authors the embedded varieties are found generally in preparations made *intra vitam.* I could not see any intracorpuscular forms as described by Laveran and Mesnil, though a few parasites could be seen, superposed or underlying a red blood corpuscle. What struck me was the large number of leucocytes, the nuclei of which contained deeply stained masses resembling closely the Donovan-Leishman bodies. In fact 15 to 25 per cent. of leucocytes, mononuclear as well as polymorphonuclear, presented such masses, deeply red-purplish stained in their nuclei.

Ross has already called attention in one of his papers to the presence of some curious massive nodular deeply staining granules arranged principally round the periphery of the nucleus of leucocytes. Ross states that he is not familiar with such granules, but cannot definitely connect them with Leishman-Donovan bodies. Ross observed this peculiar appearance of the leucocytes' nuclei in preparations made during life; my preparations were made after death, but it is to be noted that the post-mortem was held less than six hours after death.

Laveran and Mesnil also state that in some cases they have seen apparent indications of the Leishman-Donovan bodies included in the nuclei of the leucocytes, and that in such cases the nuclei always presented some alterations.

It is remarkable the leucocytes showing Leishman-Donovan bodies in their nuclei or at least formations resembling them are by far more numerous than the leucocytes which present them in the protoplasm. It is remarkable also that some nuclei appear as if they had been damaged and sometimes almost destroyed by those bodies. All this cannot be explained, in my opinion, as a simple fact of phagocytosis. On account of these facts I have suggested the hypothesis that the organism in some stages of its development might be a parasite of the leucocytes—a leucocytozoon. The recent discovery of Rogers, who has proved the organism to be a trypanosome or a closely allied flagellate, is rather in favour than against my hypothesis, as Schaudinn, Zieman, and others have demonstrated that the leucocytozoa found in fowls are developmental stages of trypanosomes or of protozoa greatly resembling trypanosomes.

Summary of observations :—

(1) The Leishman-Donovan body has been observed in Ceylon for the first time.
(2) The case was not a case of typical splenomegaly ; probably it was a case at the very beginning of the disease, while an intercurrent disease (lobar pneumonia) killed the patient.
(3) The examination of my preparations confirms the opinion of Manson, Ross, Low, &c., that the bodies are not intracorpuscular parasites of the red blood corpuscles.

19. *Intestinal parasites ; Worms.*—Intestinal worms are more frequently met with in tropical countries than in temperate zones. In Uganda and British East Africa Dr. Low and myself found out that from 80 to 90 per cent. of the apparently healthy natives harboured worms in the intestine. In Colombo it has been my constant rule to thoroughly examine the intestine for entozoa. *Intra vitam* the fæces of several Europeans and Sinhalese and Tamils, healthy or suffering from various diseases, have been microscopically examined for ova.

20. *Cestoda* (tape worms) do not seem to be very frequent. I have seen a case of Tænia saginata in the General Hospital. At autopsies I have never observed tape worms.

21. *Trematoda.*—So far I have not yet observed in Ceylon any worm of this group.

22. *Nematoda.*—Anchylostoma duodenale, Ascaris lumbricoides, and Trichocephalus dispar are extremely common. Anguillula intestinalis has not yet been observed. Anchylostoma duodenale gives rise to the well-known form of anæmia. Cases of this anæmia are extremely frequent in the Island. When the anchylostomata are very few in number they do not give rise to any obvious symptoms.

23. *Ascaris lumbricoides* and Trichocephalus dispar are often harmless, though the convulsive attacks so frequently met with in children are probably due in many cases to the presence of these entozoa. When the ascarida are in great numbers they may give rise exceptionally to severe intestinal symptoms. I attach two tables. The first shows the occurrence of ova in the stools of Europeans, Sinhalese, and Tamils apparently healthy. The second shows the frequency of worms in the intestine at autopsies :—

Table No. 1.—Normal Subjects : Ova of Worms (January, 1904).

No.	Race.	Ascaris lumbricoides.	Trichocephalus dispar.	Anchylostoma duodenale.	Oxyuris vermicularis.	Anguillula intestinalis.	Protozoa.
1	European	—	+	—	—	—	—
2	European	—	—	—	—	—	—
3	European	—	—	—	—	—	—
4	European	+	+	—	—	—	—
5	European	—	—	—	—	—	—
6	Sinhalese	+	+	—	—	—	—
7	Sinhalese	—	+	—	—	—	Trichomonas intestinalis
8	Sinhalese	—	—	—	—	—	—
9	Sinhalese	+	+	—	—	—	—
10	Sinhalese	—	+	+	—	—	—
11	Sinhalese	—	—	—	—	—	—
12	Tamil	+	+	—	—	—	—
13	Tamil	+	—	—	—	—	—
14	Tamil	—	—	—	—	—	—

Table II.—Incidence of Intestinal Worms at Autopsies.

Number of autopsies at which the intestine was examined for worms	...	151
Number of cases in which the worms were found ...	Ascaris lumbricoides ...	72
	Anchylostoma duodenale...	23
	Trichocephalus dispar ...	33
	Oxyuris vermicularis ...	2

As can be seen from the table, the commonest worm is the Ascaris lumbricoides, then the Trichocephalus dispar ; and the rarest is the Oxyuris. In a case of an old woman a long peculiar filiform worm was found. This has been sent to Professor Blanchard for identification.

24. *Intestinal protozoa : Amœba coli.*—I have found this parasite in the stools of four dysentery patients. Does Amœba coli represent one species only or several species ? Celli distinguishes several species of amœba inhabiting the human intestine. Kruse and Pasquale admit two different biological species : a harmless one living in the intestine of healthy persons, and a pathogenic one which is the cause of the so-called amœbic dysentery. Schaudinn recently, after some very interesting experiments, has come to the conclusion that under the denomination of Amœba coli two species of amœba, different morphologically and biologically, are confounded. The two, according to Schaudinn, present such important differential characters that they might almost constitute two

different genera. He has called one species, the harmless one, Entamœba coli (Lösch), the other, pathogenic, Entamœba hystolitica. In the Entamœba coli (Lösch), according to Schaudinn, a distinction between ectoplasm and endoplasm is very difficult, and impossible in resting amœba. The nucleus is clearly defined, very distinct, and contains several nucleoli. The reproduction takes place by fission and by formation of cysts, each containing eight nuclei.

In the Entamœba hystolitica, in contrast with the first species, the nucleus is very indistinct and often absolutely invisible. Reproduction takes place always by fission, never by formation of cysts presenting eight nuclei, so characteristic of the Entamœba coli (Lösch).

In my three cases I noticed that the amœba presented a very indistinct nucleus, often quite invisible, and I never observed cysts with eight nuclei. These two characters point to it being the Entamœba hystolitica of Schaudinn.

25. *Trichomonas Intestinalis* (*Leuckart*).—This protozoon of the length of about 18 microns with an undulating membrane and three flagella has been observed in Ceylon by me many times in the intestinal contents of patients affected with various diseases and also of normal persons. It is frequently observed in some forms of diarrhœa.

26. *Entamœba undulans* (*Castellani*).—In two cases, one of amœbic dysentery and one of diarrhœa, I have observed a peculiar protozoon, which I have called Entamœba undulans. The usual shape of the parasite is oval or roundish. The maximum diameter may reach 25 to 30 microns. There is complete absence of flagella. A continuous rapid undulating movement from one extremity to the other extremity of its body, this being due to the presence of an undulating membrane, is noticed. Now and then at the interval of 15-20 seconds a very narrow long pseudopodium is shot from the body. Only one pseudopodium is emitted at a time. It is thrown out very quickly and is very quickly withdrawn, sometimes from one part of the body, sometimes from another. The organism has a finely granulated protoplasm ; a differentiation betweeen ectoplasm and endoplasm apparently does not exist ; the protoplasm is practically of the same character throughout. In a few individuals a very indistinct nucleus can be observed, but in most of the specimens no nucleus at all can be seen. One small vacuole is often present, seldom more than one. The vacuole did not possess the characters of a contractile vacuole. The position of the vacuole varies. The protoplasm did not contain red blood corpuscles, but often some bacteria and granules. In preparations stained with various methods the nucleus could not be stained satisfactorily. Encysted forms or forms in division were not observed. The parasite was not a cercomonas or a trichomonas, as there was always complete absence of flagella. That the organisms should be trichomonata, which somehow had lost their flagella while retaining their undulating membrane, is, in my opinion, very improbable. The size of the organisms was larger than the size of the trichomonata. It is also to be noted that though trichomonata may sometimes present amœboid movements, their pseudopodia, at least according to my experience, are not of such shape and never of such a length. The parasite was not one of the amœbæ generally met with in the human intestine, as the organism possessed an undulating membrane, and the shape and the mode of emission of the pseudopodia were different from what one sees in the Amœba coli, in which the pseudopodia are of large dimensions, blunt, and are emitted and withdrawn rather slowly. The parasite is represented in Fig. 1. As regards other intestinal protozoa, Balantidium coli, Balantidium-minutum Nyctoterus faba, Nyctoterus Africanus, none of these have so far been observed in Ceylon.

27. *Vaginal parasites : Trichomonas vaginalis* (*Donné*).—I have observed this protozoon in the vaginal secretion of several women of all races in Ceylon. The parasite resembles very closely the Trichomonas intestinalis ; in fact, some authorities are of the opinion that the two parasites do not represent different species. The only characteristic of the Trichomonas vaginalis is its size, which is larger than that of the Trichomonas intestinalis. The maximum diameter of the Trichomonas vaginalis may reach 25 micron, while the Trichomonas intestinalis does not exceed 15 micron. The parasite is probably not pathogenic. There is no doubt, however, in my experience at least, that it is found more frequently in women suffering from catharrhal affections of the vagina and uterus than in women with normal generative organs.

28. *Researches on the hæmatozoa of vertebrates in Ceylon.*—Dr. Willey, F.R.S., Director of the Colombo Museum, and myself have investigated this subject. Our results have been published in "Spolia Zeylanica," Vol. II., Part VI., August, 1904. It will be sufficient, therefore, to name here briefly the parasites of blood observed and those discovered by us.

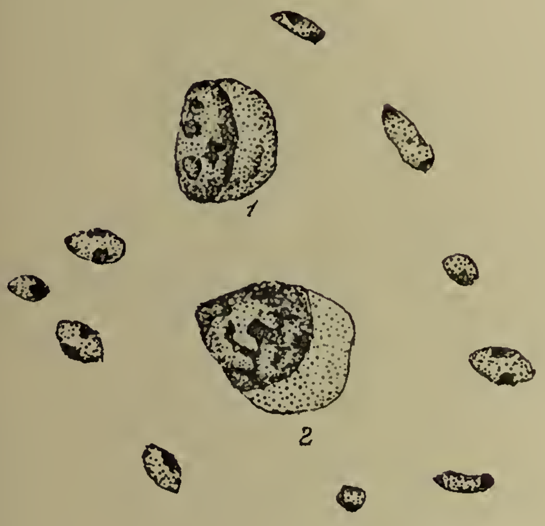
29. *Filariasis.*—According to our experience Filaria nocturna in man is not rare in Ceylon. The parasite may be met with in individuals who do not show any symptoms of the diseases commonly ascribed to the worm (Elephantisis-Chyluria). A case of Filaria nocturna without any symptoms has been observed also by Mrs. Fysh in a nurse at the Lady Havelock Hospital.

Filaria perstans, Filaria diurna, Filaria de Marquii, &c., have not been met with. In the lower animals filariasis is apparently frequent. Filaria immitis was observed by us in a pariah dog. Three new species of filaria have been discovered ; one of these was found in a lizard, Mabuia carinata. We have called it Filaria Mansoni in honour of the great authority on tropical parasitic diseases, Sir Patrick Manson.

30. *Hæmamœbidæ.*—Halteridium danilewskyi (Grassi and Feletti) has been found frequently in various birds. A new pigmented intra-corpuscular protozoon has been discovered by us in the blood of a tree-dwelling gecko, Hemidactylus leschenaultii. This parasite (Hœmocystidium simondi Castellani and Willey) constitutes a new genus and species.

31. *Hæmogregarinidæ.*—Two new species were found : Hæmogregarina nicoriæ (Castellani and Willey) in the blood of the lake tortoise (Nicoria trijuga) and Hæmogregarina mirabilis (Castellani and Willey) in the blood of a water snake (Tropidonotus piscator).

32. *Trypanosomata.*—Trypanosome Lewisi (Sav. Kent) is very common. According to our experiments at least 25 per cent. of the house rats (Mus decumanus) of Colombo harbour it. We studied the action of various chemical substances on the parasite. Some stains had a very marked action on the vitality of the parasite. Of all the stains tested, the methylene blue acted most effectively. A 1 per cent. solution of methyl blue stops at once the movement of the trypanosomes, which appear blue stained and with their shape well preserved. Such results would suggest the use of inoculations of methylene blue (Chromotherapy) in animals and man affected with trypanosomiasis, inasmuch as methylene blue is little poisonous. Manson and Low, however, have tried methylene blue inoculations in man affected with trypanosomiasis without getting any good results. Recently



Leishman-Donavan bodies.

1. 2. Leucocytes showing L. D. bodies in their nuclei.

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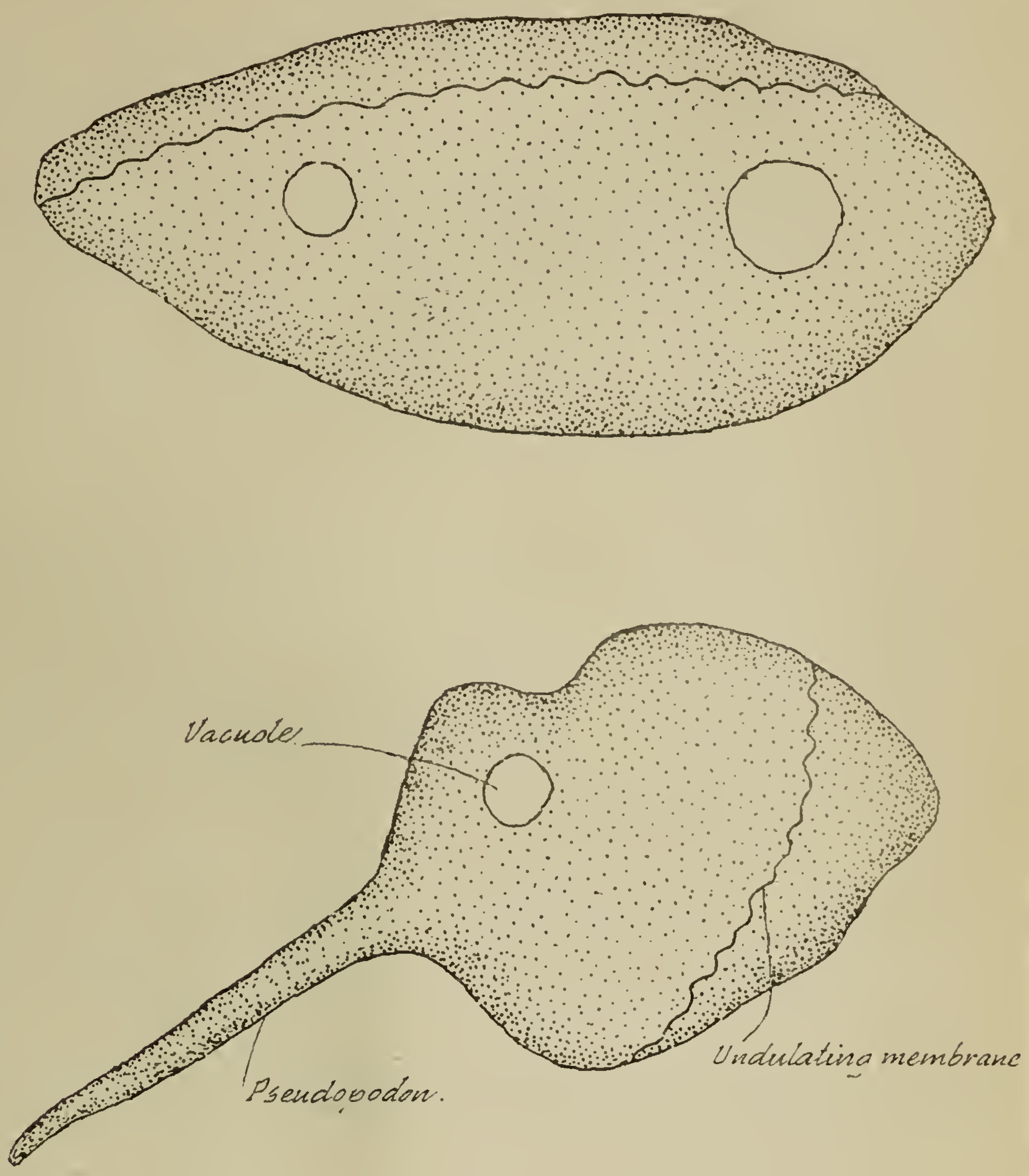

Entamoeba undulans. (Cast.)

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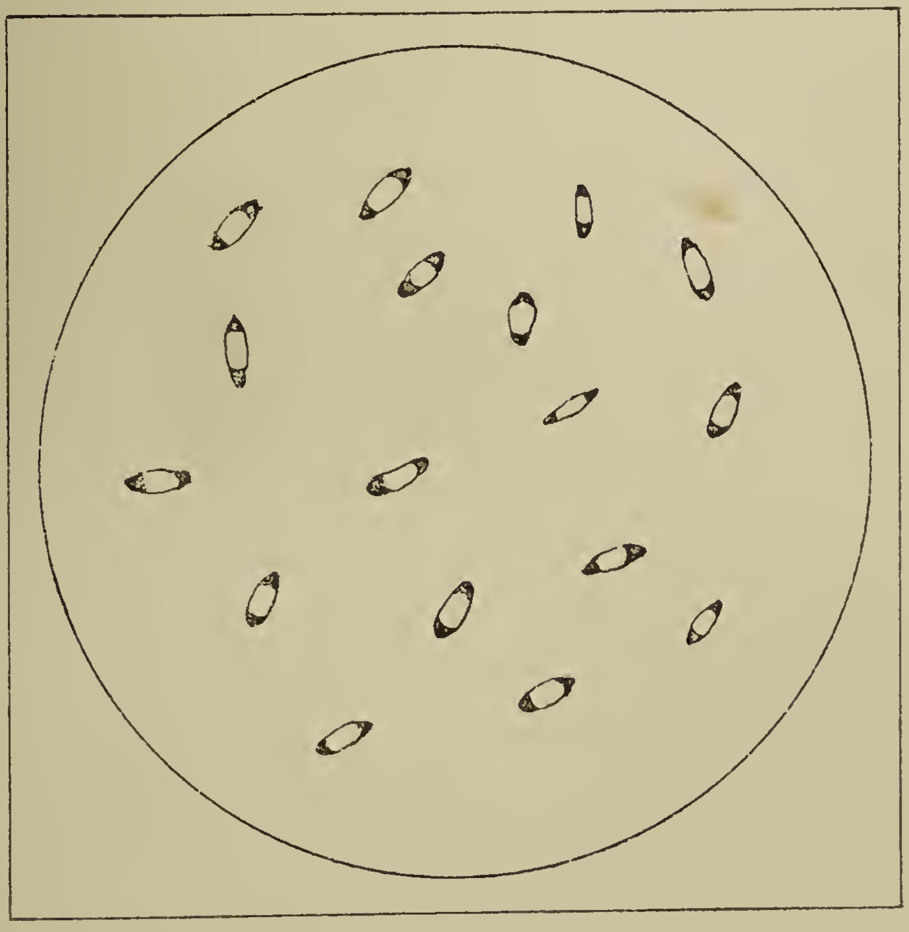

Bacillus Felisepticus. (Cast.)

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Ehrlich and Shiga have had good results in animals by inoculations of a solution of a new stain, which on account of its great affinity or the trypanosome they have called Tryparoth. In fish trypanosomes are very common, and we have found several new species.

33. *Bacteriological examination of Colombo pipe water.*—The Municipal Council, at the suggestion of Dr. Philips, Municipal Sanitary Officer, has decided to have the Colombo water examined bacteriologically once every three months. This decision is much to be commended, as periodical examinations are more valuable than isolated observations. The first examination has been undertaken in December, 1904. The results of the investigation are collected in the following table :—

Number of germs per cubic centimetre of water in agar gelatine plates	342
Number of germs per cubic centimetre of water in gelatine plates	420
Bacillus coli	Absent
B. enteritidis sporogenes	Absent
Streptococci	Absent
Germs liquefying gelatine	Very few

The number of germs per cubic centimetre is not excessive. Koch at first laid down as a standard that good water should not contain more than 100 organisms per cubic centimetre, but further investigation by a great number of experts has shown that under ordinary conditions anything under 500 organisms per cubic centimetre may be regarded as sufficiently good, between 500 and 1,000 as suspicious, and over 1,000 as highly suspicious. The germs liquefying gelatine were rare. The ratio of liquefying to non-liquefying organisms were less than 1 to 10, which is the usual standard. The search for the liquefying germs has a certain importance. These germs are very rare in pure water, while they abound in sewage. Therefore their absence or great scarcity tends to show that there is no pollution of the water with sewage. More important than the actual number of germs is the absence of pathogenic germs. A germ the search for which must always be undertaken is the colon bacillus. The presence of this organism generally indicates—especially if present in any quantity—fœcal contamination. Klein has proved that bacillus coli may be easily isolated from every cubic centimetre of water which has been recently polluted with sewage even in a dilution of 1 in 100,000. In conclusion, it may be safely stated that the Colombo water at the date of the examination was bacteriologically sufficiently good and quite fit for human consumption.

34. *Researches on the vaccine lymph prepared in Colombo.*—I have examined bacteriologically several samples of lymph. The results of the investigation of some of the samples are collected in the following table :—

No. of the Calf from which the Lymph has been obtained.	Age of Lymph when examined.	No. of Germs per Platinum Loopful of Lymph.	Pathogenic Organisms.	Non-pathogenic Organisms.
150	24 hours	140	Staphylococcus pyogenes aureus and albus	Sarcina lutea ; bacilli of the B. subtilis group
148	48 hours	94	Do.	Bacilli of the B. subtilis group
1	3 days	40	Staphylococcus pyogenes albus, Staphylococcus pyogenes aureus (very few Colonies)	do.
147	6 days	6	None	B. subtilis
45	11 days	None	None	None
142	14 days	None	None	None

From this table it will be seen that pathogenic germs were met with only in lymph quite fresh. In lymph stored six days or more no pathogenic germs, and only a few saprophytic bacteria were observed. It would seem that in the climate of this Colony the elimination of the extraneous micro-organisms of vaccine by the glycerine process occurs very speedily, whereas in temperate climates it rarely takes place before the third or fourth week after mixture with glycerine. With the exception of the sample of lymph one, two, or three days old, which contained some pathogenic organisms, all the other samples, especially those older than six days, are to be considered good from a bacteriological point of view, being practically free from germs. The bacteriological investigation does not give any light on the vaccination power of the lymph. This must be tested by the practical use of the lymph itself. Most probably, as the lymph in this climate ripens so quickly, the vaccination power of it will also diminish and become lost very quickly.

35. *Investigation on some diseases of animals : Epidemic in cats.*—In August an outbreak of a peculiar disease occurred among a number of Siamese cats belonging to His Excellency the Governor, by whose kindness I was permitted to study the affection. The cats wasted rapidly, presented high fever, and sometimes superficial lesions of the oral mucosa could be seen. At the post-mortem in uncomplicated cases there was practically nothing worth noting apart from a slight congestion of the mucosa of the whole intestine and a slight enlargement of the spleen. These two features, however, were not constant. The bacteriological examination of the blood taken from the heart with all aseptic precautions showed the presence of a bacterium, of which the following are the most important characters :—

Morphology and staining properties.—The organism is a short rod, 1 micron to 1½ micron in length, with rounded extremities. It is easily stained by all the usual aniline colours. The bipolar staining is well marked, viz., the two poles of the organism are deeply stained, while the rest is almost colourless. Gram's method is negative.

Motility.—In young cultures the organism is motile. In old cultures the motility is greatly diminished.

Culture characters.—Agar, abundant growth, colonies at first roundish, later on presenting a somewhat irregular outline.

Gelatine.—A whitish thread-like growth along the stab. No liquefaction.

Broth.—The organism grows well in this medium, giving rise to a diffuse turbidity. In very old culture a certain amount of sediment is present.

Peptone water.—The growth is less abundant than in broth. Marked uniform cloudiness.

Litmus milk.—No coagulation ; the colour of the medium is not changed.

Blood serum.—The organism grows fairly well. The colonies are not characteristic.

Bile salt agar (McConkey medium).—No growth.

Carbolic agar.—No growth. The organism, while pathogenic for cats, is not pathogenic for Guinea pigs and rabbits. From this description it will be seen that the organism has the greatest resemblance to the germs of the bacillus Septicæmiæ hæmorragicæ (Huppe) group. To this group belongs practically also the plague bacillus. Many organisms of this group cause epidemic diseases in the lower animals. So, for instance, the bacillus suisepticus (Kruse) (seu Bacterium suicida, Migula) causes a widespread and destructive disease of swine ; the bacillus Bovisepticus (Kruse) (seu Bacterium multocidum, Kitt) induces a severe epidemic disease among cattle ; the bacillus choleræ gallinarum (Kruse) (seu Bacterium avicidum, Kitt) is the cause of the widely spread chicken cholera. The only difference between organisms of the cats' epidemic in Colombo and those belonging to the bacillus septicæmiæ group is its motility. This character, however, is considered now much less important than it used to be. It must be noted also that a few authors have recorded motility in the description of some strains of the group. Therefore, in my opinion, the organism which caused the epidemic among cats belongs to the same group, and might be called *bacillus felisepticus.*

36. *Chicken cholera.*—A disease with all the clinical characters of chicken cholera has been lately very common in Colombo. By the kindness of Major Firminger I had the opportunity to examine a few fowls affected with the disease. From the blood of one I could grow the germ in a pure culture.

37. *Kora-gedi in cattle* (*Sturgess's disease*).—This disease, very common in Ceylon, has been first described by Mr. Sturgess, Government Veterinary Surgeon, after whose name it might be properly called. The most characteristic feature of the disease is the presence of several large incapsulated abscesses containing a thick creamy pus. Fever is generally absent. The animals waste rapidly, and disturbances in locomotion may be present. The course of the disease is very long, but recovery may take place if the animals are properly attended to. At the request of Mr. Sturgess I undertook some researches on the etiology of this disease.

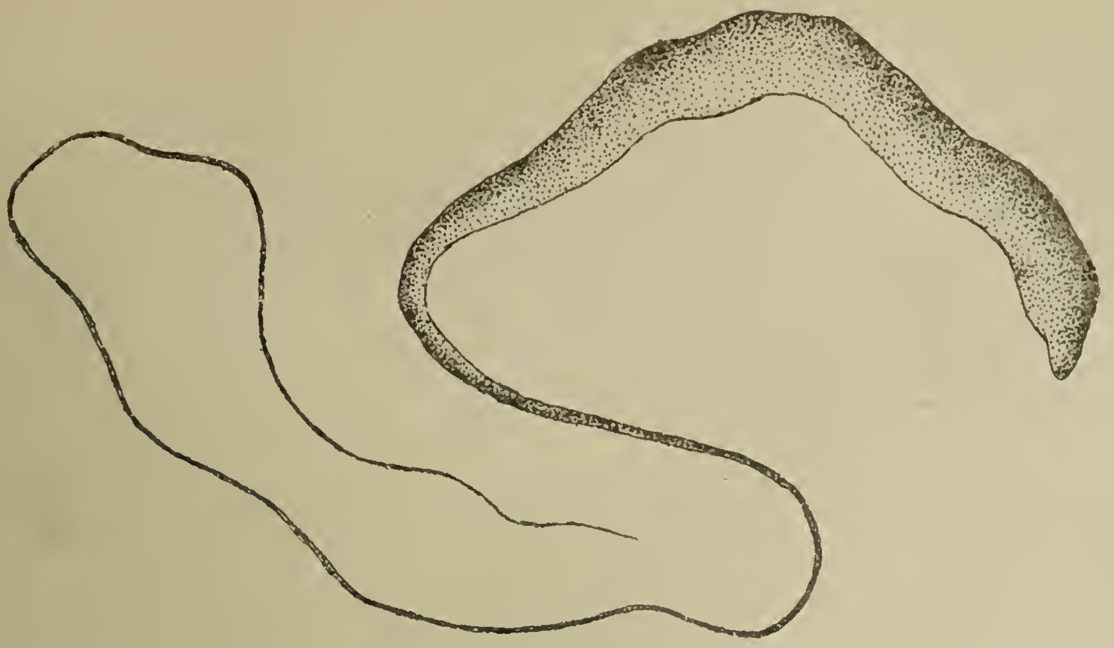
Examination of blood.—Blood was examined during life and post-mortem. The bacteriological examination made by different methods always gave negative results. The microscopical examination for protozoa was also negative. A parasite especially looked for was the trypanosome. To me the disease does not give the impression of being a form of trypanosomiasis, because as a rule, in my experience, abscesses are not a feature of the disease either in man or in the lower animals. Since Hagger however claims to have observed a form of trypanosomiasis in camels with abscesses, the search for the presence of trypanosomes was carried out as thoroughly as possible. Neither in fresh preparation of blood nor in stained was I able to demonstrate their presence in this disease. The examination of smears from the spleen never revealed the presence of degenerated trypanosomes or anything like the bodies one sees in the spleen of some animals affected with trypanosomiasis.

Examination of organs.—Pieces of different organs (liver, spleen, heart, glands, &c.) were collected aseptically at the post-mortem examinations and investigated for bacteria. The result was constantly negative.

Bacteriological investigation of the pus from the abscess.—The presence of large incapsulated abscesses, as shown by Mr. Sturgess, is the most striking and constant feature of the disease. The pus is generally thick and creamy, sometimes mixed with a little blood. Microscopically it appears to be composed of polymorpho-nuclear leucocytes ; a few red blood corpuscles are usually present. The pus was always collected from abscesses which had not burst with the usual aseptic precautions in large "Petri" dishes sterilized in the hot air sterilizer at 140° C. The bacteriological examination was carried out at once. Fresh preparations and preparations stained with the usual aniline dyes—Gram's, Ziehl's, Romanowsky-Leishman methods constantly gave negative results. On the usual culture media (broth, agar, blood serum, blood agar) no bacterial growth could be seen.

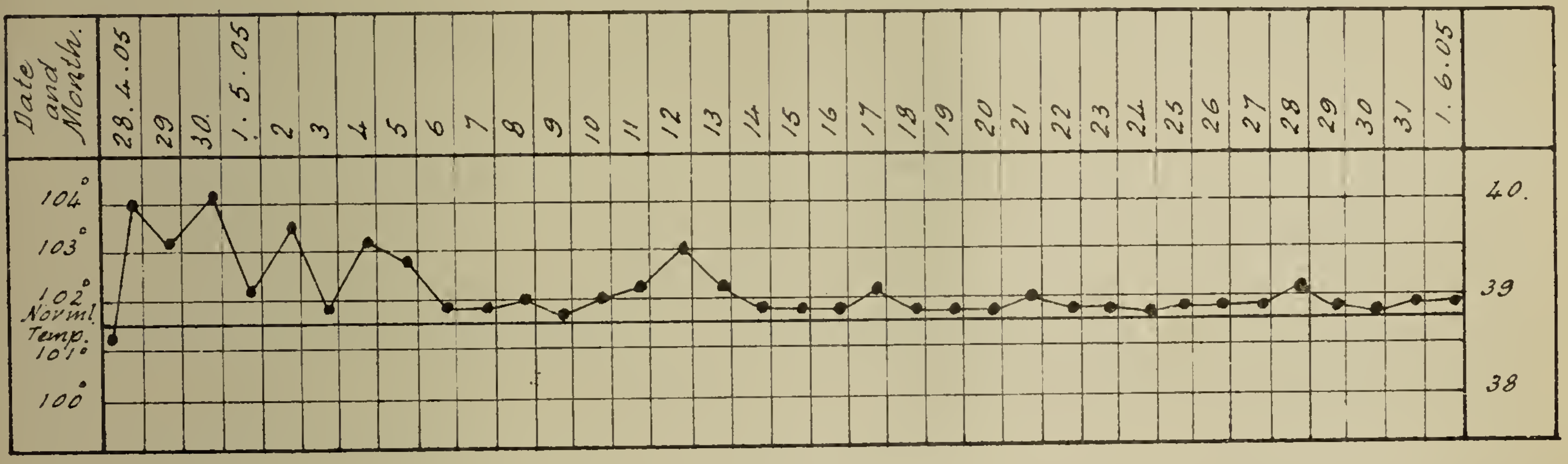
38. *Inoculation of animals.*—A batch of five Guinea pigs were inoculated subcutaneously with various quantities (1–3 c.c.) of pus from an abscess. Another group of three were inoculated into the peritoneal cavity. All died with symptoms of acute intoxication, those of the first group in forty to sixty hours, the second group in eight to twenty hours. The bacteriological examination of the blood of the heart and spleen of these animals did not show the presence of any bacteria. A healthy young bull was inoculated on 28th April, 1904, under the skin of the left shoulder with 5 c.c. of pus taken aseptically from an abscess on a cow affected with the disease. Before inoculation the bull's temperature was 102·2° Fahr.; six hours afterwards it was 104°. The bull showed no signs of malaise that day or the day after, and his appetite remained normal. Fifteen days after the inoculation a small hard tumour could be detected at the seat of injection. A week later the swelling had increased to the size of an apple. It was hard, and showed no signs of fluctuation. Five days later it burst spontaneously in the night, and in the morning when I saw the bull several cubic centimetres of thick creamy pus could be collected, very much like the pus of the abscesses seen in cattle affected with the disease. Bacteriological examination showed the presence of various micro-organisms, but no importance whatever can be attached to such a result, as the abscess had broken spontaneously, and there had been ample time for bacteria to penetrate from the outside. The abscess continued to discharge a little for several days, then granulation set in, and now only a small hard swelling is visible. So far no other abscesses have formed, and the bull is to all appearances quite healthy. I annex the temperature chart of the animal.

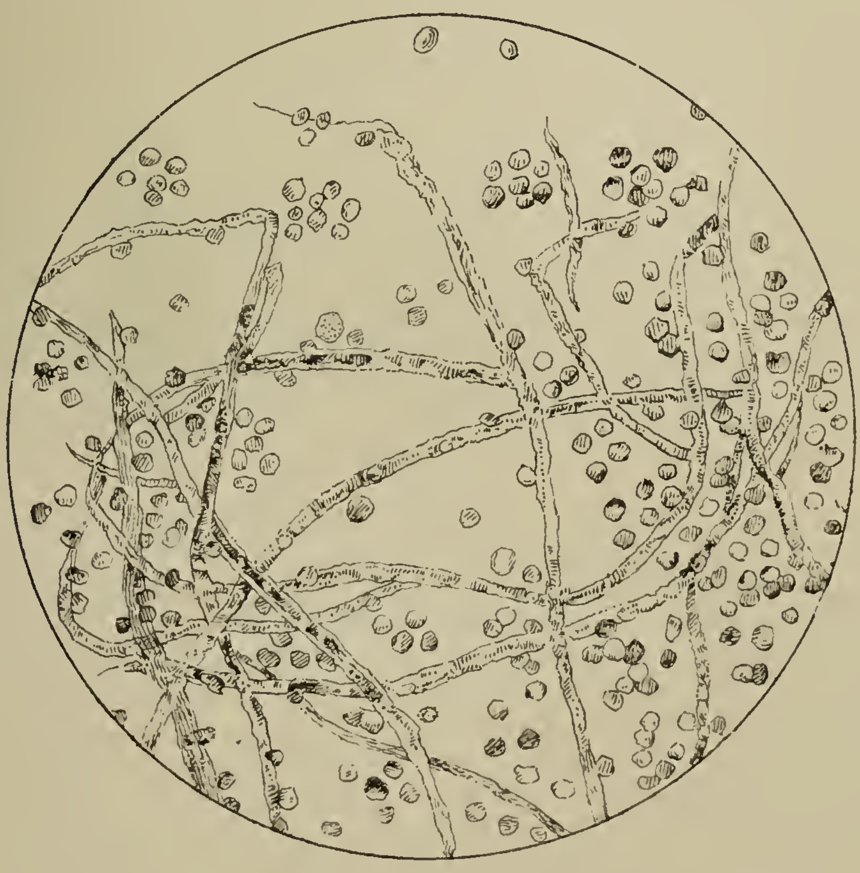
39. *Examination of abscesses for animal parasites.*—For protozoa hanging drop preparations and films stained with hæmotoxyline and Romanowsky-Leishman were made. No protozoa could be seen. In the search for higher animal organisms the pus, which is generally thick and somewhat hard, was teased up with dissecting needles under a low power of the microscope or without the microscope. A certain advantage is given by mixing some 4 per cent. formalin solution with the pus. The teasing of the pus is then rendered much easier. Such an investigation takes a very long time, because the quantity of pus contained in one abscess is very large. For this reason only a few abscesses could be examined completely (7). In one case in the pus in the centre of the



Magnified several times. Page B44. Para: 37.

BULL. Temperature Chart Page B44. Para: 38.





Fungus found in the cutaneous lesions of ducks affected with chicken-pox. Page B45. Para. 40.

Lith S.G.O. No 7/06.

abscess a worm was met with, and in another case a portion of the body of the same parasite was found. The parasite is represented in the annexed illustration. I have sent it to Professor Blanchard of Paris for identification, and therefore do not go into particulars as regards its internal structure and measurements. I have not yet received any communication from Professor Blanchard. The worm presents a long filiform neck and a thick comparatively short body. When fresh it was of a whitish colour; kept a few days in spirit and then in a 4 per cent. solution of formalin it acquired a dark brownish colour. This worm belongs certainly to the family Tricotrachelidæ, and as far as I can judge it has a certain resemblance to Tric. affinis. The presence of the parasite in one of the abscesses and a portion of it in another is somewhat suggestive, as it is well known that, for instance, in man worms are capable of causing abscesses. At the same time it would be premature to come to any decision as regards the etiology of the disease.

40. *Chickenpox of fowls.*—In December, 1904, I had opportunity to examine two turkeys belonging to Major Firminger which were affected with this disease. The affection has nothing to do with the human chickenpox. The turkeys were much wasted, and on the skin of the head several rather large yellowish raised scabs were present. These scabs could be taken away with comparative ease by means of a pair of forceps. I made several microscopical preparations from these scabs and from scrapings of the raw surface remaining after the scabs had been removed. The material was kept for about half an hour in diluted liquor potassæ, then teased by means of dissecting needles. Fresh as well as stained preparations were examined. Numerous tangled mycelial threads could be easily detected. Various media were inoculated with the material. The fungus grew well on all the ordinary laboratory media (agar, gelatine, &c.), but best of all on Sabouraud medium of the following composition :—

Peptone	0·5 grm.
Maltose	3·8 grms.
Agar-agar...	1·3 grms.
Water	100 c.c.

The inoculated media were kept at the temperature of the room varying from 30 to 34° C. The growth was visible on all these media after a few days, and was especially abundant on maltose agar. The fungus produces masses of tangled dark filaments or hyphæ and many roundish spores The fungus certainly belongs to the hyphomycetes. I have kept the cultures alive for further investigation and determination of the species.

The disease is very common and many animals die. As treatment I would suggest this when the lesions are on the skin: first of all to remove the scabs; this is easily done with forceps and a small knife; in cases where the scabs are very adherent they may be softened with olive oil. After the scabs have been removed the lesions should be touched with pure turpentine oil, after which, to diminish the irritation produced by the turpentine, the spots may be rubbed with vaseline or any grease. In case the surface is very raw and real ulcerations are present, the pure turpentine might be too irritative. It should be mixed then to form a liniment with equal parts of olive oil. I suggest turpentine because it is very efficacious on all parasitic diseases due to Hyphomycetes, besides which it is not expensive and is easily obtained everywhere. This treatment of course is only a suggestion; it must be tested practically, using all due precautions.

Recently (February, 1905), Dr. Ll. Thomas has kindly sent me a very interesting article on chickenpox cut from the supplement to the "Indian Fowl Fanciers' Gardeners', and Farmers' Journal." From this paper I gather that the disease has been known in Ceylon for many years, and is called "Wusuria" or "Kookul Wasungnthey" in Sinhalese and "Visoorie" in Tamil. I see from the same paper that the disease is common also in the West Indies, where an anonymous author (Dr. N.) has published a careful report on it in the Bulletin de l'Union Agricole Caledonienne. He states to have found in the lesions a fungus, the Aspergillus fumigatus. The Ceylon fungus, however, though belonging to the Hyphomycetes, does not appear to be the Aspergillus fumigatus. In the paper I have quoted a good and simple method of treatment is given: removing of the scabs and wetting the ulcers with neat Jeyes' fluid.

41. *Pathological work.*—As Pathologist to the General Hospital of Colombo I have performed 165 autopsies, a large number of microscopical examinations of blood, urine, sputa, &c., besides the histological investigation of various tumours. Morbid conditions of the respiratory organs are very common, especially lobar pneumonia and broncho-pneumonia. Two cases of abscess of the lung were observed. Tuberculosis of the lungs is very frequent. Affections of the heart and pericardium are not rare; acute and chronic valvular changes, several cases of fibrinous pericarditis, a case of tubercular pericarditis were seen. Arterioscleosis is perhaps less general than in Europe. The same observation was made by Low and myself in Equatorial Africa. Morbid conditions of the digestive tract are extremely common. I studied with particular care the intestinal lesions occasioned by dysentery.

It is well known that some authorities do not admit any difference in the morbid lesions found in the various forms of dysentery. I cannot agree with this opinion. From my personal experience in Europe, Africa, and Ceylon I have come to the conclusion that the bacterial and the amœbic forms of the disease are absolutely different in their pathological features as well as in some of their clinical aspects. This opinion is held by Sir Patrick Manson, Kartulis, Kruse, Rogers, and other authorities on tropical medicine. I have examined post-mortem many cases of bacterial dysentery and several cases of amœbic dysentery. The appearance of the intestine in the two conditions is quite different. In the bacterial form the mucosa of the large intestine is very much swollen, reddened, and studded with numerous small roundish or oval superficial ulcerations. In the amœbic dysentery the ulcers are generally large, irregular, deep, with ragged and undermined edges. Scrapings from these ulcers will often show numerous amœbæ. I have never met with abscess of the liver in the bacterial dysentery, while this complication is far from rare in the amœbic form.

Typhoid is of frequent occurrence. I observed a case complicated with malaria (subtertian). The ileum showed the usual typhoid ulceration. The spleen was enlarged, hard, contained some pigment, and showed microscopically many sporulating forms.

A case of para-typhoid was observed in the Lady Havelock Hospital by Mrs. Fysh and Miss de Boer, who kindly sent me the intestine for examination. The ileum presented ulcerations identical with typhoid. This observation is of some interest, as generally it is stated that in para-typhoid the intestinal lesions are absent or not much marked.

In Ceylon, as in many other parts of the tropics, there are some forms of enteritis of obscure origin. One of these is the so called acute serous diarrhœa, which clinically has the greatest resemblance with cholera. The mortality due to it is high. At the post-mortem no very characteristic lesions are found, the mucosa of the small and large intestine is hyperamic, no ulcers are present, the intestinal contents are liquid, and frequently like rice water. So far I have not had any opportunity to hold a post-mortem on cases of Ceylon sore mouth (sprue).

As regards morbid conditions of the liver and gall bladder, the atrophic fibrosis of the organ is very frequent. This is certainly of alcoholic origin (arrack). Stones were found in the gall bladder once; they were cholesterin gall stones, moderately small, facetted.

Concerning affections of the nervous system and meninges, purulent lepto-meningitis was observed several times: two cases were due to the meningococcus of Weichselbaum. Tubercular meningitis has been met with frequently. A case of tumour of the brain has been observed. The tumour, of a grayish colour and not sharply limited from the surrounding tissue, was situated in the left frontal lobe. The histological examination showed it to be a glinoma; the number of the neuroglia cells was very large, while the fibrils were few.

As regards malignant tumours found at autopsies, out of 168 post-mortem examinations two cases have been met with: a carcinoma of the pylorus and a carcinoma of the mammary gland (scirrus).

Twenty-one tumours sent from various hospitals have been examined microspically; nine were malignant. Of these, seven were carcinomata, five of the squamous cell type, one columnar cell, and one spheroidal cell. The other two malignant new growths examined were represented by two sarcomata, both of the small round cell variety.

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(9) REPORT on the General Hospital, Colombo, by T. F. Garvin, M.B., C.M.

(1) THE GENERAL HOSPITAL.

(A) *Administrative.*

1. *The professional staff.*—The visiting staff continued the same throughout the year, with the exception that Dr. De Saram succeeded Dr. Sinnetamby as Second Physician when the latter was translated for duty as the Physician to the Outdoor Dispensary.

2. Dr. Aldo Castellani was appointed Pathologist and Dr. David Rockwood Anæsthetist at the beginning of the year.

3. The resident staff consisted of the full complement of five officers. At the end of the year they were all fully qualified.

4. I must again call attention to the circumstance that the work of the hospital, especially on the surgical side, has grown to such an extent that the present staff is insufficient. Each member of the staff may be stated roughly to have 100 beds in his charge. The First Physician and myself have the paying section to deal with in addition.

5. Since my first appointment as officer in charge of the General Hospital in 1891 the expansion has been marked and the work has increased. In that year the number treated was 6,830 and the daily average sick 233·78. The corresponding numbers in 1904 were 13,657 and 479·64.

6. The number of operations in 1892 was 202, in 1898 302, and in 1904 1,300. Of the 1,300 operations in 1904, no less than 600 were done by myself. The need for a Third Surgeon is therefore now very urgent, and I hope that I may very shortly be given such assistance.

7. *Nursing.*—The nursing staff of the General Hospital consisted of the Lady Superintendent and eighteen nurses, fourteen for day duty and four for night. They all belong to a Roman Catholic Sisterhood. One lay nurse, paid from the Plague vote, did duty also, and was entrusted with the gynæcological work. The day nursing was, all things considered, satisfactory, but the night nursing was not. Until the staff of night nurses is at least doubled the work cannot be satisfactorily coped with, and I hope that steps will be taken to give early effect to this suggestion. I feel bound to add that the work devolving on the nursing staff is daily on the increase, and that in consequence it will require strengthening in the near future. As regards the character of the services rendered, I would again tender my testimony to the energy and devotion to duty displayed by the staff. The need of a special nurse for gynæcological work is still greatly felt.

8. The attendants—male and female—are unsatisfactory. They are very much underpaid, and in consequence a good class of men and women cannot be secured. I would strongly recommend an increase all round of 15 per cent. on the present salaries, or as an alternative the granting to each of the day attendants of a midday meal, so as to ensure their remaining on duty throughout the day. This will cost no more than 12 cents per head per day.

9. The number of attendants, both day and night, was increased during the year to meet the growing needs of the hospital; but it was nevertheless necessary to employ special hands for the nursing of special cases requiring the undivided attention of an attendant.

10. *Steward's Department.*—Mr. Silva continued to give satisfaction as steward. His work has greatly increased, and with a single assistant it is very difficult for him to keep abreast of his duties.

11. *The Dispensing Department.*—Mr. Majid was in charge and continued to do his work with the aid of an assistant and the students of the College attending the dispensary for instruction on the compounding and dispensing of prescriptions. The supply of drugs and surgical dressings was ample.

12. *The Operating room.*—Mrs. Brohier, the nurse in charge, has continued to give satisfaction. I have repeatedly suggested improvements in the operating room, to which I would again call attention.

13. *Disinfection.*—The disinfector has been in constant use. The cost in fuel was Rs. 279.

14. *Disposal of night soil.*—This service has been carried out satisfactorily by the Health Department of the Municipality at a cost of Rs. 552 for the year.

15. *Washing of hospital linen.*—There was the usual difficulty encountered in arranging for the satisfactory washing of the hospital linen, although the salary of the dhoby was increased substantially; and not infrequently there was considerable inconvenience caused by an insufficiency of clean linen, especially during the wet months of the year. A steam laundry on the premises would supply a much-felt want.

16. *Expenditure.*—The sanctioned vote for diets for 1904 was Rs. 63,300, and the expenditure amounted to Rs. 57,880·69, thus showing a saving of Rs. 5,419·31. The total cost per head per day for diets alone was 25·86 cents, for extras alone 5·44 cents, and for stimulants 2·01 cents; the total was 33·31 cents.

17. *Revenue.*—The total revenue during the year was as follows :—

	Rs.	c.
From paying patients	296	70
From casualty cases	149	0
Unclaimed money of patients who died	160	5
Total—Rs.	605	75

Last year the total amount was Rs. 357·33.

18. *Residential buildings.*—The quarters for the nurses are now sufficiently enlarged and spacious. The old building requires frequent repairs of a minor kind, but is otherwise satisfactory.

19. It is very desirable that quarters should be available for the locally-trained nurses, employed in the paying section, within the hospital premises. For this purpose the old administration block may be utilized; with a few small alterations and improvements it should answer the purpose admirably.

20. I would again point out that a residence within the precincts of the hospital should be available for the officer in charge. The officer in charge, if in residence, could supervise the hospital more effectually than now, and be more readily available should urgency demand his presence.

21. *Improvements required and effected.*—The new administration block has practically been completed, and forms a handsome and imposing structure. The lighting arrangements have not yet been completed, but will be very shortly.

22. I would draw attention to the suggestions made in my report for 1903 with regard to the rebuilding of the whole hospital, ward by ward, on modern lines.

23. The accommodation of the hospital is inadequate. The female surgical ward requires extension, and a special ward for gynæcological cases is necessary.

24. *Overcrowding.*—There has been a good deal of overcrowding, particularly in the lower wards. I have during the year succeeded in reducing the admissions by discouraging patients from entering hospital and referring them to the outdoor dispensary for relief. A large number are pauper cases, more in need of food than medical relief. It would greatly relieve the congestion in the hospital if a system could be organized of housing these cases in cheap cadjan wards outside the town and tending them there. A poor-house sustained by the Municipality would meet this want. It could be worked on inexpensive lines.

(B) *Professional.*

25. *Admissions to hospital.*—During the year under review the number of patients treated in the pauper section was 13,082, of which 12,680 were new admissions. In 1903 the figures were 14,083 and 13,644 respectively. There has thus been a decrease in the numbers.

26. The daily average sick in the pauper section was 451·10, and in the whole hospital 479·64. In 1903 the corresponding figures were 460·48 and 486·82.

The following table shows the numbers treated in the last ten years :—

1894	8,640	1899	9,399
1895	7,806	1900	14,231
1896	7,876	1901	15,614
1897	9,063	1902	16,035
1898	9,102	1903	14,696

27. *Mortality.*—The total number of deaths in the pauper section of the hospital during the year was 902, *i.e.*, 6·8 per cent. of those treated. In 1903 the percentage was 7·7. The total number of deaths for the whole hospital was 958, *i.e.*, 7·01 per cent. of the total treated.

28. The mortality amongst Malabars was 7·90 per cent. as against 6·98 per cent. amongst patients of other races.

Report of my Work as First Surgeon.

29. During the year under review I performed 600 operations under anæsthesia. I subjoin a list of these. There were fifteen deaths, *i.e.*, a mortality rate of 2·5 per cent.

30. I would now add a few words of comment on these operations.

31. To take hepatic abscesses first, the list shows eleven cases with four deaths. All these were large abscesses which were reached through the trans-thoracic route. When complicated with bowel disorders, such as diarrhœa or dysentery, the patient perished usually from exhaustion.

32. As regards amputations, all did well. The amputation through the hip was done in a patient sent from Avisawella, who had sustained compound comminuted fracture of the femur and subsequent necrosis. It was impossible to save the limb, which was therefore removed by Furneaux Jordon's method, the patient making a splendid recovery.

33. Herniotomy for the radical cure of hernia by Bassini's or Kocher's method was performed in sixteen cases with complete success. Eight cases of strangulated hernia were operated on. In seven of these Bassini's operation for the radical cure was simultaneously done and all recovered. In one case where there was gangrene of the bowel, resection of the necrosed portion was effected and end to end anastomosis made by Murphy's button. The patient lived for two days and then died of peritonitis.

34. Operation for the radical cure of hydrocele was performed forty-two times with good success. The operation performed consisted of incision into the sac and its retroversion and fixation with sutures.

35. The operation of ovariotomy was done eight times with complete success in seven. One case, an incomplete operation for a dermoid of the ovary, died.

36. Besides ovariotomy there were several gynæcological operations.

37. Supra-pubic lithotomy was performed three times with good results.

38. McEwen's operation for genu valgum was performed with excellent results, the patient leaving the hospital with perfectly straight legs.

39. Trephining for depressed fracture of the skull was done nine times; six cases were successful.

40. In a remarkable case of chronic intestinal obstruction, where fœcal matter had not been passed for a fortnight, left inguinal colotomy was performed. The patient is still in hospital, and his recovery is certain.

41. Thoracotomy was done eight times for empyema with good results in all. Orchectomy, mostly for hæmatocele or suppuration, was done sixteen times with success.

42. Besides the above a large number of excisions of tumours—benign and malignant—glands, tongue, &c., were performed with success.

43. The following is a list of the operations:—

	Number of Operations.	Number of Deaths.
Amputations of toes and fingers	6	—
Do. forearm	2	—
Do. thigh	2	—
Do leg	5	—
Do. penis	4	—
Do. breast	4	—
Amputation through the hip	1	—
Herniotomy for radical cure	16	—
Do. strangulated hernia	8	1
Operation for hepatic abscess	11	4
Do. large abscesses	96	2
Sequestrotomy	17	—
Operation for radical cure for hydrocele	42	—
Excision of lymph scrotum	4	—
Do. glands	78	—
Do. post-pharyngeal adenoids	3	—
Do. piles	19	—
Do. epithelioma	8	—
Do. lower jaw	1	—
Do. polypus of pharynx	2	—
Do. carbuncle	9	—
Do. prepuce	62	—
Do. fibroid tumour	5	—
Do. papilloma	5	—
Do. lipoma	4	—
Do. cyst of neck	2	—
Do. varicocele	2	—
Do. tongue	1	—
Curetting of uterus	8	—
Closure of vesico-vaginal fistula	2	—
Ovariotomy	8	1
Colporrhaphy	2	—
Removal of dermoid cyst from abdomen	1	—
Oophorectomy	1	—
Aspiration of knee-joint	1	—
External urethrotomy	3	—
Removal of sebaceous cyst	13	—
Orchectomy	16	—
Catheterization	5	—
Operation for fistula in ano	7	—
Suture of extensive wounds, muscles, and tendons	12	—
Incision and drainage of pyocele	3	—
Curetting of sinuses	34	—
Trephining of skull	9	3
Exploratory laparotomy	6	2
Ligature of arteries	2	—
Thoracotomy	8	—
Dilatation of urethra	1	—
Vasectomy	1	—
Setting of fractures	6	—
Reduction of dislocations	2	—
Supra-pubic lithotomy	3	—
Dilatation of rectum	3	—
Incision and drainage for suppurative appendicitis	2	—
Removal of bullet from the antrum	1	—
Osteotomy	1	—
Incision and drainage for pelvic cellulitis	5	—
Hysteropexy	2	—
Tracheotomy	1	—
Trephining of mastoid antrum	3	1
Removal of penis (Gould's operation)	2	—
Perioneorrhaphy	4	—
Tapping of gôitre (cystic)	1	—
Excision of melanoid sarcoma	1	1
Inguinal colotomy	1	—
Total	600	15

(2) THE PAYING WARDS.

44. The accommodation in these wards was found to be insufficient. It will be necessary in the near future to add about half a dozen more rooms.

45. *Statistics.*—The total number treated during the year was 575, of which 56 died. They were distributed as follows :—

	Treated.	Deaths.
Seamen's Ward	262 ...	25
Planters' Ward	84 ...	3
Anthonisz Ward	174 ...	16
Passengers' Ward	14 ...	4
Cargill Ward		
Clerical Ward	41 ...	8

46. The percentage of deaths to the total treated was 9·5. Of the 575 cases 289 were medical and 286 surgical.

47. *The staff.*—The professional staff consisted, as before, of Dr. Fernando as Physician and myself as Surgeon.

48. The number of cases operated on in the paying wards was sixty with two deaths.

49. *Nursing.*—The nursing of patients in the paying wards was in the hands of Miss Bell and two European nurses, Misses Ellams and Lee. Miss Bell resigned in May and was succeeded by Matron Tavell, and the staff was then further augmented by two Sisters Corder and McLeish. At the end of the year there were on the nursing staff one matron, four European Sisters, and six locally trained nurses. Even this staff was found to be inadequate.

50. The nursing has been satisfactory. The night nursing is left in charge of an European Sister and three locally-trained nurses.

51. The locally-trained nurses who do duty in the paying wards have greatly benefited by their association with the European nurses. Considering the duties they are called upon to perform, I think they should be placed on a higher scale of pay.

52. *Revenue and expenditure.*—The total income during the year amounted to Rs. 43,127·20, and the expenditure was Rs. 31,436·01.

53. *Improvements required.*—Among the improvements, I would ask that the electric light replace the gas lights now in use, and that electric fans be erected in each room. It will be necessary in the near future to supply better beds ; those now in use are not altogether satisfactory. I think that beds made locally of teak will answer better than iron beds.

54. A storeroom and a mortuary are greatly needed. Plans and estimates are, I believe, now under consideration.

55. *Gatekeeper.*—I think a gatekeeper very necessary to regulate the entrance of people to these wards. At present any one can walk in at any time. This is a constant source of annoyance to the patients and the staff.

Report of H. M. Fernando, M.D., B.Sc., London, Fellow of University College, London, First Physician.

IN the paying wards there were treated 289 medical cases, as against 268 in 1903, with 42 deaths. Of these, 24 were cases of enteric fever with 5 deaths. Of the lascar seamen that come into the port 11 were admitted with beri-beri, of whom 2 died.

2. Of the medical cases treated in the pauper wards, enteric fever, dysentery, pneumonia, anchylostomiasis, and malaria are the most noteworthy.

3. In the male medical wards Nos. 2 and 3 (thirty-two beds), where I have kept the records of the important cases on a uniform system for a number of years, there were treated in 1904 794 patients with 24 deaths.

4. Of these, enteric fever numbered 80 with 10 deaths, pneumonia 31 cases with 3 deaths, all of whom were moribund at the time of admission, dysentery 24 cases without any death, and anchylostomiasis 64 cases with 3 deaths, all due to complications.

5. The work of these wards is the most important in the whole hospital on the medical side, as the cases admitted to them are all generally acute and require constant attention.

6. The number of cases of enteric fever for the year (80) is the record number for three wards, and is due to the fact that cases of this disease are now more carefully searced for, and are more eager to look to hospital for medical relief.

7. I was not able to detect from the hospital cases any widespread epidemic of this disease in the town.

8. On the other hand, malarial fever cases from the infected areas in Mutwal and Alutmawata were admitted for treatment all throughout the year.

9. Even in December last a European officer engaged in the Harbour Works was admitted for his first attack of malarial fever due to his residing within the endemic area from the beginning of the month.

10. This case clearly shows that the anophalines are still prevalent in the neighbourhood, and that the epidemic has not died out yet.

11. Although the work conducted in these wards is very important and considerable, the number of attendants (two for the thirty-two beds during the day and only one at night) is wholly inadequate.

12. The Sister of the ward, who has worked for several years with great devotion and success, is very much hampered by this want.

Report of H. G. Thomasz, F.R.C.S., Edin., Second Surgeon.

I HAVE had a good deal of surgical work to do during the year 1904. The operating work of the Colombo Hospital is increasing yearly. I pointed out last year that it would come as a relief to the two surgeons if a third were appointed. I have performed 700 operations under chloroform.

2. *Accommodation.*—The female surgical wards were overcrowded throughout the year, and a large number of patients had to sleep in the outer verandahs. (1) A special ward is required for gynæcological cases; (2) rooms are urgently required for isolating infectious and contagious cases and patients inclined to be violent; (3) wards are required for patients who are unable to pay the fees charged at the paying wards. It is very hard that people who are not paupers, and whose income is over Rs. 50 a month and under Rs. 150, should not be able to enter a ward where they could pay a nominal fee for treatment.

3. *Equipment.*—There has been no cause for any complaint whatever. Everything required for keeping the patients clean and comfortable was readily supplied.

4. *Nursing.*—Good. Special nurses are required for gynæcological work in the pauper wards. At present the services of a nurse are utilized for such work, but she is without the special training necessary.

5. *Attendants.*—These servants are paid small salaries. Skilled and trained attendants should be paid at least Rs. 20 per mensem, and ordinary attendants Rs. 15 with uniform and a diet in the middle of the day to prevent them leaving their wards.

6. *Remarks on professional work.*—The total number of operations performed during the year 1904 on my side was 700. There were eight deaths, giving a mortality of 1·1 per cent. The more important operations, which require special notice, are the following.

7. There were seventeen successful amputations; five were of the thigh, three of the leg, three of the arm, one of the forearm, the remainder being digits and toes.

8. The penis was amputated on ten occasions for epithilioma.

9. The skull was trephined eleven times for depressed fracture, and once for Jacksonian epilepsy.

10. Inguinal colotomy (left) was performed once with success in a case of imperforate anus.

11. Curetting of post-pharyngeal adenoids was done twenty-one times, and excision of hypertrophied tonsils five times. All were successful.

12. The glands were excised in fifty-five cases, forty-eight in the inguinal, eight in the cervical, and four in the axillary regions.

13. There were fifteen malignant new growths excised.

14. The breast was totally removed with axillary glands in one case for scirrhus.

15. Carbuncles were excised in seven cases. All did well.

16. There were forty-one non-malignant new growths excised of various types (*vide* list). There was one death from secondary hæmorrhage in a case of subperitoneal hæmatoma.

17. There were three cases of elephantiasis scroti excised.

18. Laparotomy was performed on five occasions; one was for a case of intestinal obstruction due to an omental band. The patient was almost *in extremis*, but made a rapid recovery.

19. There were thirty cases of radical cure for hernia. Bassini's operation was nearly always done.

20. There were eleven cases of strangulated hernia operated on, with one death.

21. Orchectomy was performed in sixteen cases: for hæmatocele, pyocele, and suppurative phlebitis of the cord.

22. There were five cases of hæmatocele treated with excision of the sac, and three cases of pyocele with incision and drainage.

23. There were forty-seven cases of hydrocele; thirty-one were tapped and corrosive sublimate solution (1 in 500) introduced. Extroversion of the sac was performed in sixteen cases.

24. There were three cases of varicocele, which did well.

25. There were two harelip cases, five fistula in ano, and ten cases of hæmorrhoids; all did well.

26. Supra-pubic lithotomy was performed in three cases; one had three large stones, and one case died of surgical kidney twenty-four hours after the operation.

27. Deep-seated and other abscesses involving special parts demand more than a passing notice. 103 cases were dealt with in all, the most important of which were five mammary, one hepatic, eight iliac, five axillary, six perineal, six parotid, three lumbar, and three ischio rectal.

28. There were seven cases of reduction of dislocations of the spoulder and hip joints.

29. Ribs were resected on six occasions for empyæma and abscess of the liver. The cases did well.

30. Vasictomy was performed once for enlarged prostate. The patient declined to submit to prostatectomy. He left hospital relieved.

31. There were three cases of urethrotomy, two external and one internal.

32. *Gynæcological work.*—There is ample scope for such work in the hospital, but a separate ward and a trained nurse are required. The record of the work has however, been good.

33. Laparatomy was performed for ovarian and other tumours on eleven occasions. All the cases did well. To prevent shock I have carried out the suggestion of Dr. David Rockwood and retained sterilized saline solution in the peritoneal cavity. This has been followed with good results.

34. The uterus has been curetted on fifteen occasions.

35. Hysteropexy was performed in a case of prolapse of the uterus with marked success.

36. Vaginal hysterectomy was performed for malignant disease. This patient recovered without any complications.

37. Colpo-perineorrhaphy was performed on four cases and perineorrhaphy once.

38. The cervix was amputated once.

39. List of Operations, 1904.

No.	Names of Operations.	Number of Operations.	Number of Deaths.
1	Amputation of arm	3	—
2	Amputation of forearm	1	—
3	Amputation of digits	2	—
4	Amputation of thigh	5	—
5	Amputation of leg	3	—
6	Amputation of toes	3	—
7	Amputation of penis for epithilioma	10	—

No.	Names of Operations.	Number of Operations.	Number of Deaths.
8	Aspiration of hæmatoma of scalp Aspiration of chest	2 2	— —
9	Catheterization	34	—
10	Colotomy, inguinal, for imperforate anus	1	—
11	Curetting of post-pharyngeal adenoids	21	—
12	Curetting of sinuses	35	—
13	Excision of breast for scirrhus cancer	1	—
14	Excision of carbuncles	7	—
15	Excision of glands, axillary	4	—
16	Excision of glands, cervical	8	—
17	Excision of glands, inguinal	43	—
18	Excision of malignant new growths carcinoma of rectum, 1 epithilioma of cheek, 4 epithilioma of chest, 1 epithilioma of lip, 1 epithilioma of palate, 1 epithilioma of tongue, 1 sarcoma, 3 unclassified, 3	15	—
19	Excision of non-malignant new growths cysts, blood, 3 ; 1 death cysts, dumoid, 1 cysts, hygroma cells, 1 cysts, sebaceous, 4 euchondroma, 4 epulis, 1 fibroma, 1 ganglion, 1 neuroma, 1 papilloma, 4 polypus, aural, 2 polypus, nasal, 1 rannulæ, 2 unclassified, 15	41	1
20	Excision of prepuce	59	—
21	Excision of scrotum for elephantiasis	3	—
22	Excision of tonsils	5	—
23	Excision of varix, lymphatic	1	—
24	Excision of veins, varicose	1	—
25	Exploration for depressed fracture of skull	1	—
26	Exploration for stone in bladder	2	—
27	Extraction of foreign bodies (fish) in throat	1	—
28	Extraction of foreign bodies (seeds) in ear	3	—
29	Extraction of teeth (stumps)	5	—
30	Hernia, radical cure, Bassini	30	—
31	Herniotomy, strangulated hernia	11	1
32	Incision and drainage of abscesses axillary, 5 cervical, 7 deep-seated, 49 gluteal, 1 hepatic, 1 ischio-rectal, 3 iliac, 8 lumbar, 3 mammary, 5 parotid. 6 perineal, 6 pyæmic, 5 ; 2 deaths scrotal, 4	103	2
33	Incision and drainage of abscesses for hæmatcele	5	—
34	Incision and drainage of abscesses for pyocele	3	—
35	Incision and drainage of abscesses for suppurative elbow joint	5	—
36	Incision and drainage of abscesses for suppurative knee joint	3	—
37	Laparatomy exploratory, 3 appendicitis, 1 intestinal obstruction (omental band). 1	5	—
38	Ligature of femoral artary for suppurative hæmatocele	1	1
39	Lithotomy, supra-pubic	3	1
40	Operation for fistula in ano	5	—
41	Operation for harelip	2	—
42	Operation for hydrocele, tapping, 31	47	—
43	Operation for hydrocele, extroversion of sac, 16		
44	Operation for piles, ligature, and excision	10	—
45	Operation for varicocele, Bennet	3	—
46	Orchectomy for hæmatocele, 9 Orchectomy for pyocele. 4 Orchectomy for suppurative phlibitis of cord, 3	16	—
47	Paracenntesis abdominis	1	—
48	Reduction of dislocations (shoulder and hip)	7	—
49	Reduction of paraphimosis	6	—
50	Resection of ribs for empyæma and hepatic abscess	6	—
51	Scraping of ulcers, chronic, 9 Scraping of ulcers, lupoid, 4 Scraping of ulcers, rodent. 3	16	—
52	Sequestrotomy	9	—
53	Setting of fractures	5	—

No.	Names of Operations.	Number of Operations.	Number of Deaths.
54	Suturing extensive wounds	14	—
55	Trephining for depressed fracture of skull, 11; 1 death Trephining for Jacksonian epilepsy, 1	12	1
56	Urethrotomy, external	2	—
57	Urethrotomy, internal	1	—
58	Vasectomy	1	—
59	Wiring of fractured ends of bone	3	—
40.	*Gynæcological Operations.*		
1	Amputation of cervix	1	—
2	Colpo-perineorrhaphy	4	—
3	Curetting for endometritis	15	—
4	Curetting for retained membranes after labour	1	1
5	Excision of polypus (cervix uteri)	1	—
6	Hysteropexy	1	—
7	Hysterectomy, vaginal	1	—
8	Incision and drainage of suppurative parovarian cyst	1	—
9	Laparotomy for cystic filroma, 3 Laparotomy for ovarian cyst, 4 Laparotomy for parovarian cyst, 4	11	—
10	Paracentesis cystis in parovario	2	—
11	Perineorrhaphy	1	—
12	Repair of vesico-vaginal fistula	2	—
		700	8

Report of Allan de Saram, M.B., C.M., Aber., Second Physician.

I WAS appointed Second Physician on my return from England, and assumed duties on the 19th September, relieving Dr. Sinnetamby, who was appointed Superintendent of the Lying-in Home and Medical Officer in charge of the Outpatient Department.

2. I am therefore unable to give a complete report of the work done during the year. Five wards were assigned to me for the treatment of medical cases.

3. The total number treated was 2,872, with 142 deaths.

4. The diseases treated were phthisis, pneumonia, enteric fever, dysentery, malaria, anchylostomiasis. The male consumptives are still being treated in a separate ward. The female consumptives, being fewer in number than the males, are being treated with the other patients in the general ward. A small ward for the female consumptives is thereupon necessary.

5. Anchylostomiasis still continues to be very prevalent; the largest number of admissions was for this complaint.

6. Towards the end of the year a number of cases of malarial fever were admitted for treatment from Mutwal and its vicinity.

7. There was an interesting case of leukæmia.

Report of Wm. C. Pieris, M.B., C.M., Third Physician.

I BEG to submit my report as Third Physician of the General Hospital, Colombo.

2. *Accommodation.*—Every one of the wards under my charge, more especially the lower diarrhœa and the female wards, have been overcrowded almost throughout the year. Extending the lower block in building two more wards, as mentioned in my previous report, are necessary. One of these wards might be utilized to treat contagious cases, such as enteric, acute diarrhœa, dysentery, &c.

3. The equipment was sufficient.

4. The nursing was fair.

5. The diseases principally treated were gastro-intestinal disorders, anchylostomiasis, phthisis and pneumonia, and malarial and enteric fevers.

6. Cases of acute diarrhœa and lepto-meningitis were fewer than during the previous year.

7. A fairly large number of incurables, such as spinal cord diseases, spinal diseases, and blindness were treated during the year. These patients if discharged are promptly brought back by the police. As they are mostly of the beggar class, having no proper abode or means of sustanance, they have to be detained a long period in hospital.

8. The number of patients treated during the year was 2,713, with 389 deaths, giving a percentage of 14·31, compared with 2,947 treated the previous year, with 490 deaths. Though the number of deaths have been lessened by 101, the high percentage cannot be reduced, as a large number of the cases brought in by the police are either moribund or hopeless cases.

9. *Sanitation.*—The sanitation has been satisfactory, and the wards and grounds have been neatly kept throughout the year.

Report of W. H. de Silva, M.B., C.M., F.R.C.S., Edin., Ophthalmic Surgeon and Medical Officer in charge, Grenier Memorial Eye, Ear, and Throat Infirmary.

1. *Staff.*—The staff of the infirmary remains the same.

2. *Outdoor patients.*—Number of outdoor patients treated during the year was 7,848, as against 6,602 in 1903, showing an increase of 1,246. The patients have been distributed as follows:—

Eye Cases	7,440
Ear Cases	205
Throat Cases	203
Total	7,848

3. The principal diseases treated during the year were—

Abscess (lachrymal) ...	21
Atrophy, optic nerve ...	14
Blepharitis squamosa ...	72
Do. ulcerosa ...	26
Carcinoma of ocular conjunctiva...	1
Cyst, Meibomian... ...	39
Cataract. senile	220
Do. traumatic ...	14
Do. congenital ...	6
Do. anterior capsular ...	2
Do. anterior polar ...	1
Do. posterior ...	1
Do. (with glaucoma) ...	2
Do. diabetic ...	8
Conjunctival hæmorrhage ...	26
Choroiditis, central ...	6
Chorio retinitis	3
Cyclitis, traumatic ...	2
Conjunctivitis	356
Do. phlyctenular ...	101
Do. granular ...	21
Do. with keratitis ...	10
Do. follicular ...	17
Dacryo cystitis	19
Dislocation of lens ...	5
Foreign body in cornea ...	51
Do. eye ...	27
Glaucoma, chronic ...	11
Do. sub-acute ...	1
Do. secondary ...	3
Hernia iris	5
Hypermetropia	78
Injury to eye	9
Do. cornea	8
Irritation, sympathetic ...	4
Irido cyclitis	2
Iritis	56
Do. traumatic ...	2
Iritis, rheumatic	10
Do. rheumatic chronic ...	9
Do. syphilitic ...	1
Do. leprotic	1
Do. sympathetic ...	1
Keratitis	11
Do. superficial ...	21
Do. ulcerosa ...	164
Do. phlyctenular ...	35
Do. interstitial ...	8
Leucoma	23
Lupus erythematosa ...	3
Macula cornea	32
Myopia	59
Do. post staphyloma ...	1
Opacities of vitreous ...	10
Optic neuritis	7
Obstruction, lachrymal ...	21
Ophthalmia, sympathetic ...	5
Do. gonorrhœal ...	7
Do. catarrhal ...	25
Do. catarrhal, acute ...	176
Do. catarrhal, chronic ...	46
Panophthalmitis	12
Presbyopia	137
Peterygium	23
Prforated wound of cornea ...	1
Papilloma, epithelial ...	1
Phthisis bulbi	19
Scleritis	10
Sarcoma of eyes	1
Strabismus	1
Trachoma	25
Do. with pannus ...	3
Trauma	3
Throat cases	107
Ear cases	127

4 Operations.

Abscess, lachrymal ...	4
Do. of lid	3
Cyst, Meibomian... ...	16
Do. of conjunctiva ...	3
Do. of lid ...	3
Degeneration of leucoma (scraping)	1
Foreign body in cornea ...	6
Excision of tonsils ...	2
Keratitis ulcerosa (cautery) ...	14
Polypus of lid	2
Obstruction, larchymal ...	34
Tumour, granular ...	1
Ulcer of lid (scraping) ...	1
Total ...	90

5. *Indoor Patients—*

Number treated in 1904	464
Do. 1903	363

6. There were several other cases that required indoor treatment, but as the number of beds at my disposal at the General Hospital was very limited, they had to be refused admission.

7. Operations.

Abscess, lachrymal ...	1
Do. of upper orbit ...	1
Ankyloblepharon ...	1
Carcinoma of ocular conjunctiva...	1
Cataract (extraction) ...	45
Do. traumatic ...	1
Do. congenital ...	1
Do. without iridectomy ...	1
Do. with colobroma ...	2
Cystoid cicatrix (cautery) ...	2
Cyst, lachrymal	1
Do. Meibomian... ...	2
Enucleation of eyeball ...	10
Ectropion	3
Entropion	1
Iridectomy for leucoma ...	6
Do. for occlusio pupilli ...	2
Keratitis ulcerosa (cautery) ...	7
Nævous	1
Needling of lens	32
Do. and couching ...	1
Pterygium	10
Staphyloma (abscision) ...	4
Sarcoma of eye	1
Scarification and cauterization for purulent ophthalmia ...	4
Removal of lachrymal sac. ...	1
Total ...	142

8. *Collections.*—The collections for the Eye, Ear, and Throat Departments have amounted to Rs. 269·26.

8. *Improvements.*—I will not make any suggestions for improving the present methods of work and attention to patients, as the completion of the Victoria Memorial Eye Hospital is near at hand.

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(10) REPORT of J. B. Spence, M.A., M.B., Medical Superintendant, Lunatic Asylum, Colombo.

I HAVE the honour to submit the annual report of this Asylum, together with the House of Observation, for 1904.

2. A. *Asylum.*—(*a*) At the beginning of the year 508 patients (331 males, 177 females) remained under treatment.

(*b*) During 1904 158 persons (110 males, 48 females) were admitted.

(*c*) The total number treated was thus 666 (441 males, 225 females).

(*d*) The number discharged during the year was 80 (60 males, 20 females), while 49 patients (36 males, 13 females) died.

(*e*) The number remaining at the end of 1904 was therefore 537 (345 males, 192 females), an increase of 29 (14 males, 15 females) during the year.

(*f*) The daily average number of patients was 516·34 (males 332·98, females 183·36), an increase of 29·97 as compared with the previous year. The daily average for males shows an increase of 15·64, and for females an increase of 12·33.

(*g*) The largest number resident on any one day was 545, the maximum number of males being 351, and of females 194.

(*h*) The smallest number of patients resident at one time was 495, the minimum in the case of males being 317, and in the case of females 175.

B. *House of Observation.*—(*a*) At the beginning of the year four persons (3 males, 1 female) remained in the House of Observation.

(*b*) During its course 139 persons (104 males, 35 females) were admitted.

(*c*) The number treated was thus 143 (107 males, 36 females).

(*d*) Of these, 78 (52 males, 26 females) were transferred to the Asylum, and 54 (48 males, 6 females) were discharged, and 3 (2 males, 1 female) died.

(*e*) At the end of the year 8 persons (5 males, 3 females) remained in the House of Observation.

(*f*) The largest number of patients in it at one time was 20, the maximum for males being 18 and for females 6, while the minimum number was 2 (male 1, female 1).

3. As the Asylum and House of Observation are at present worked together the numbers have to be taken in combination in estimating the strain on the accommodation available. Put in tabular form, the figures are—

	Males.	Females.	Total.
Remained	334	178	512
Admitted	162	57	219
Total treated	496	235	731
Discharged	108	26	134
Died	38	14	52
Remaining	350	195	545

(*a*) The numbers given above are those of the different persons treated. In the House of Observation, for technical reasons, one person is often admitted and discharged more than once, but such cases have been reckoned only once in the table, while cases transferred from the House of Observation to the Asylum have also been reckoned only once as admissions. This explanation is necessary to prevent misconception should the table be compared with that given last year, in which the number of admissions, &c., was that of cases as shown in the register. I have altered the mode of construction of the table this year in order to convey a clearer idea of the number of persons actually dealt with.

(*b*) The average daily number of patients in the whole institution was 525·70, the average for males being 339·85 and for females 185·85.

(*c*) The largest number resident at one time was 555, the maximum for males being 360 and for females 196.

(*d*) The smallest number simultaneously resident was 500, the minimum for males being 321 and for females 175.

(*e*) The total maximum is 33 in excess of that of last year, which in turn exceeded that of the previous year by 18; consequently the increase in the accommodation required has been 51 in two years. In the four years commencing with 1901 the maximum number of males has risen from 318 to 360, an increase of 42, of which nearly half occurred in 1904.

4. *Admissions* (*Asylum*).—The cases admitted were of the usual type, and call for no special comment. The total number of admissions was the second highest on record (158, as compared with 165 in 1902), and the number of males admitted was greater than in any previous year (110, as against 108 in 1902). There were only four new cases of epileptic insanity. In 12 cases (10 males, 2 females) no definite symptoms of insanity were observed after the patients' admission here.

5. *Discharges* (*Asylum*).—(*a*) Of the 80 cases discharged, 52 (35 males, 17 females) were "recovered," 17 (16 males, 1 female) were "relieved," and 11 (9 males 2 females) were "not improved." The latter number seems high, but it includes 10 cases (8 males, 2 females) classed as "not insane."

(*b*) Calculated with reference to the number of admissions, the recovery rate was 32·91 per cent.; the percentage for males being 31·81, and for females 35·41. These results compare unfavourably with those of previous years, and are probably somewhat exceptional, but there seems to be a gradual lowering of the recovery rate, the causes of which are not quite clear. I think there is a growing tendency to send to the Asylum chronic cases of a mild but rather hopeless type, which were formerly kept at home, and this may account for part of the decrease in the recovery rate: possibly the overcrowding that exists here may also have something to do with it. Experience seems to show that abundant space is an important factor in the successful treatment of the insane; as I propose to show later, that factor is wanting here at present.

(*c*) A table (2) showing the period of residence of those discharged recovered is appended to this report. Eleven persons (10 males, 1 female) were discharged within three months, 15 (8 males, 7 females) in from three to six months, and 15 (10 males, 5 females) in from six to nine months. One male was discharged as "recovered" after thirteen years' residence here.

(*d*) The forms of mental disorders in those discharged are shown in the general table of results already forwarded.

6. *Deaths* (*Asylum*).—(*a*) Forty-nine patients (36 males, 13 females) died, as against 51 in 1903. The ratio per cent. of deaths to the total number treated was 7·35 (8·16 in males, 5·77 in females), and to the average daily number 9·48 (10·81 in males, 7·08 in females). These ratios are slightly lower than last year's, and the ratio to the total number treated is also rather below the average ratio of the last sixteen years (7·42), that among males being higher and among females lower than the averages for the same period (7·70 for males, 6·87 for females). The ratio to the average daily number is slightly higher than the average for the period mentioned.

(*b*) In 18 of the 52 deaths in the whole institution some form of tebercular affection was present, though in some of these it was not the chief cause of death. It may be a coincidence, but it is worth noting that 16 of the 18 occurred in the male division, where the overcrowding is greatest, and where the sleeping accommodation is quite insufficient.

(*c*) In 30 cases cerebral disease in some form was present, and in seven of these there had been epileptiform seizures during life. Old age was the main cause of death in four cases—one (a woman) had been in the Asylum since 1873, while another (a man) had been an inmate only about a month.

(*d*) There were no fatal cases of injury, and none of suicide.

7. *Escapes.*—One male patient succeeded in escaping on two occasions from the room in which he had been placed for the night. He was a very agile and muscular man, and a skilful mechanic, and he devised a method of escape which would have occurred to few people, and which would have been practicable by still fewer, especially in the second case, where the feat was more difficult of accomplishment owing to the construction of the room, which I had supposed safer than that of which he had already demonstrated the insecurity. I do not think any one could justly be blamed. The rooms in question had been in use by all sorts of patients for years past, and no one had attempted to do what this man did, and until he showed me how he had effected his escape I believed he must have been aided by some officer of the Asylum. The case has several other points of interest; the patient was the son of a woman who has been an inmate of the institution for many years and appears to be incurable. The patient himself manifests great, though ill-regulated intelligence. His excitement when he was admitted was probably due, at least in part, to intoxicants, and by the time he made his first escape it had passed off to a great extent. I think his escapade had a good effect on his mental condition, and he was discharged soon after. Unfortunately he was again brought here a few days later, quite unnecessarily so far as I could judge, and the second escape followed. As I did not regard him as insane, he was not brought back after his recapture by the police.

8. *Accommodation.*—(*a*) The deficiency in accommodation, to which I have so often referred in previous reports, has now become so great as to render proper administration impossible, and a large extension is a necessity. Even now it is very difficult to find space for new arrivals, especially if they are males, and if the number of patients goes on increasing as it has done lately it will soon be impossible. The accommodation provided has never been quite sufficient, but for several years after the new Asylum was opened the rate of increase was slow and inconstant, and, except in the matter of single rooms, difficulties arising from insufficiency of space could be met without much inconvenience. In 1895 and part of 1896 there was a sudden and exceptional increase in the Asylum population, but in spite of this the total increase in the decade from the beginning of 1888 to the beginning of 1898 was only 72 (males 31, females 41), and the greater part of it was in the female division, in which space was most plentiful. But since then the increase has been more rapid. In 1904 the total increase was 29 (males 14, females 15), and in the short time that has already elapsed since the beginning of 1905 the rate of increase has been accelerated. These figures relate to the Asylum alone, and do not include the inmates of the House of Observation. The nominal accommodation of the male division is 215, but the real accommodation has for a considerable time past been taken as 225, though I think the former is the juster figure. The female division nominally provides for 157, but in consequence of certain alterations the present estimated accommodation is for 153. Consequently the whole building may be regarded as reasonably sufficient for 378 persons. But what are the numbers to be provided for? In this institution the attendants and coolies, male and female, with few exceptions, sleep in the dormitories along with the patients, and have therefore to be taken into account along with them. Adding 41 males and 22 females to the maximum numbers of patients yet reached in each division, we find that 403 males have had to be lodged in a building estimated to provide at most for 225, and 223 females in one whose capacity is estimated at 153.

(*b*) From time to time proposals for small and inexpensive additions to relieve temporarily the steadily increasing congestion have been submitted, but have not been carried out, and the time is now past for them. Nothing but a large scheme will meet the requirements of the case, and I have already made a suggestion as to the form the extension should take. I do not think it desirable to discuss the matter in this report, but there is one point to which I desire to allude. Any satisfactory provision for the lunacy, not only of to-day, but of the near future, will cost a considerable sum, and the expenditure will be, from a financial point of view, unremunerative. I wish again to point out, as I did in my report for 1896, that hitherto the burden of lunacy Ceylon has had to bear has been relatively a light one—far lighter than that of a poor colony like Jamaica, where the proportion of pauper lunatics provided for by the Government seems to be about six or seven times as great as it is here; still more so in comparison with England and Scotland. Further, though the increase I have recorded is considerable, it is commensurate with the general increase of the population of the Island.

9. *Administration*: (*a*) *Water supply.*—The insufficiency of the water supply, especially during parts of the year, led to much inconvenience. Even now the supply is inadequate, but I trust that when the new reservoir has been completed the needs of the Asylum may be fully supplied.

(*b*) *Expenditure.*—The expenditure was kept within the amounts voted under the various headings, except in the case of diets, where there was a deficit of Rs. 6,875·95 in spite of all the economy practicable where the diet scale and the prices of provisions are fixed as they are here. The actual deficit is not great, the greater part being recouped by revenue from paying patients.

(*c*) *Changes.*—In May Mr. Anthonisz, the Steward of the Leper Asylum, exchanged places with Mr. Ludowyke.

In the nursing staff several changes took place.

Changes in the staff of attendants have, fortunately, not been numerous. There have been added during the year two night attendants (one male and one female), one male day attendant, and two male coolies. With few exceptions, I have to report well of the attendants generally, and especially of certain of the male attendants who discharge difficult and disagreeable and at times dangerous duties with great fidelity and success.

10. *Industrial Department.*—This continues to be a valuable adjunct in the working of the institution. I annex a tabular statement of its finances.

In conclusion, I desire to thank the Assistant Medical Officer, Mr. K. J. de Silva, for his valuable help in the administration of the institution, and the other members of the staff for their co-operation and assistance. I wish also to express my deep sense of obligation to the Principal Civil Medical Officer and to the Official Visitors for the encouragement and support so kindly and so constantly afforded me.

I.—Table showing the Forms of Mental Disorder in those Admitted, Discharged, and Died in the Asylum in 1904.

Mental Disorder.	Remained.			Admitted.			Total treated.			Discharged.												Died.			Remaining.		
										Recovered.			Relieved.			Not improved.			Total.								
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Mania	144	69	213	58	33	91	202	102	304	24	14	38	9	—	9	1	—	1	34	14	48	16	6	22	152	82	234
Melancholia	104	57	161	34	13	47	138	70	208	10	3	13	5	—	5	—	—	—	15	3	18	8	3	11	115	64	179
Dementia	55	35	90	1	—	1	56	35	91	—	—	—	—	—	—	—	—	—	—	—	—	3	3	6	53	32	85
Idiocy and imbecility ...	3	7	10	3	—	3	6	7	13	—	—	—	2	—	2	—	—	—	2	—	2	—	—	—	4	7	11
General paralysis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Epileptic insanity ...	20	8	28	4	—	4	24	8	32	1	—	1	—	1	1	—	—	—	1	1	2	9	—	9	14	7	21
Alternating insanity ...	1	—	1	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Stupor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Not insane	4	1	5	10	2	12	14	3	17	—	—	—	—	—	—	8	2	10	8	2	10	—	1	1	6	—	6
Total ...	331	177	508	110	48	158	441	225	666	35	17	52	16	1	17	9	2	11	60	20	80	36	13	49	345	192	537

2.—Table showing Length of Residence of those discharged recovered and of those who died during 1904.

Discharged recovered.

	Under 3 months.	From 3 to 6 months.	From 6 to 9 months.	From 9 to 12 months.	From 1 year to 2 years.	From 2 to 3 years.	From 3 to 4 years.	From 4 to 5 years.	From 5 to 10 years.	From 10 to 15 years.	From 15 to 20 years.	From 20 to 30 years.	From 30 to 40 years.	Total.
Males	10	8	10	—	3	3	—	—	—	1	—	—	—	35
Females ...	1	7	5	1	2	1	—	—	—	—	—	—	—	17
Total ...	11	15	15	1	5	4	—	—	—	1	—	—	—	52

Died.

	Under 3 months.	From 3 to 6 months.	From 6 to 9 months.	From 9 to 12 months.	From 1 year to 2 years.	From 2 to 3 years.	From 3 to 4 years.	From 4 to 5 years.	From 5 to 10 years.	From 10 to 15 years.	From 15 to 20 years.	From 20 to 30 years.	From 30 to 40 years.	Total.
Males ...	5	4	3	1	5	4	1	—	7	1	4	1	—	36
Females ...	2	1	—	—	—	4	1	—	1	1	1	1	1	13
Total ...	7	5	3	1	5	8	2	—	8	2	5	2	1	49

3.—Statement of Accounts of the Industrial Department, Lunatic Asylum, 1904.

Balance on 31st December, 1903 :—		Rs. c.	Rs. c.
Cost of 4 per cent. Inscribed Stock (Rs. 8,480) ...		8,629 85	
Do. do. (Rs. 4,000) ...		4,400 0	
			13,029 85
Fixed deposit, Hong Kong and Shanghai Bank		—	2,035 4
Current account, Hong Kong and Shanghai Bank ...		3,771 0	
Cash in hand		64 51½	
			3,835 51½
			18,900 40½
Receipts in 1904 :—	Rs. c.		
Interest on current account, Hong Kong and Shanghai Bank	79 40		
Interest on fixed deposit, Hong Kong and Shanghai Bank	71 17		
Dividend on Government Stock ...	499 20		
Sale of produce, &c. ...	1,168 30		
		1,818 7	
Expenditure in 1904 :—			
General current expenditure	—	1,332 5½	
Balance profit ...			486 1½
Total Funds—Rs.			19,386 42
Invested as follows :—		Rs. c.	
In 4 per cent. Ceylon Government Stock		8,629 85	
Do. do.		4,400 0	
			13,029 85
Fixed deposit, Hong Kong and Shanghai Bank ...		—	2,106 21
Current account, Hong Kong and Shanghai Bank ...		4,186 81	
Cash in hand		63 55	
			4,250 36
Total—Rs.			19,386 42

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(11) REPORT of the Medical Superintendent, Leper Asylum, Hendala, W. H. Meier, L.M.S., Ceylon.

I HAVE the honour to submit the annual report of the Leper Asylum at Hendala for 1904 with the usual statistical tables.

1.—*Statistics.*

The general statistics for the year are as follows :—

	Males.	Females.	Total.
Remained on 1st January, 1904	228	61	289
Admitted during the year	128	27	155
Total treated	356	88	444
Discharged	53	5	58
Died	47	11	58
Remained on 31st December, 1904	256	72	328

2. The total number admitted was 155, 19 excess of the previous year, and the daily average 238·38 males and 66·68 females. The average amount of cubic space was 1,050·08 cubic feet, the superficial area 67·93 square feet. The number of beds available was 332. The female wards were more or less overcrowded during the year, but accommodation was found for all without unduly inconveniencing the inmates ; the male wards had sufficient room for all the male admissions without overcrowding.

3. The extension of the female section of the Asylum is urgently required, as pointed out in my last report, and should be provided for as early as possible. More accommodation is also needed for male lepers in view of the increasing number of admissions under the Lepers' Ordinance of 1901.

4. *Admissions.*—The number admitted was 155 (128 males and 27 females), being 19 in excess of the previous year; 105 were new admissions, an increase of 33, and 50 re-admissions. Twenty-seven were of the tubercular, 54 of the anæsthetic, and 74 of the mixed form of leprosy. The Western Province and Colombo contributed the largest number, viz., 68, Southern Province 18, Central, Uva, and Sabaragamuwa Provinces 4 each, Eastern Province 3, Northern Province 2, and North-Western and North-Central Provinces 1 each. The history of the disease among the new admissions was of a period from five months to fifteen years. Although the number of new admissions had increased, the number of new cases of recent origin had not, a comparatively small number only being affected a few months or at most a year previous to admission. The increase in the admissions is due to the effective working of the Lepers' Ordinance of 1901 and the compulsory removal and isolation of lepers from their villages and other infected localities.

5. It is generally admitted that leprosy in the anæsthetic form is not contagious, except in the advanced stage, when there are ulcers and extensive lesions of the skin. This form is more frequently observed in the Island, many of the admissions into the Asylum being anæsthetic lepers in the early stage of the disease. These lepers should be enlarged and periodically examined and reported on by a Medical Officer. I may here affirm the statement already held by some observers, "that leprosy although an infective and contagious disease is only slightly so, and requires special conditions for its conveyance from one individual to another."

6. *Discharges.*—Fifty-eight were discharged, 13 of whom were allowed home isolation and 13 temporary leave sanctioned by Government, on expiration of which they were re-admitted; 32 absconded and were reported to the police, who brought back 21; 11 are still at large.

7. *Deaths.*—There were 58 deaths during the year, the percentage to total treated being 13·06, a decrease in the death-rate of 5·50. The principal supervening diseases which contributed to the mortality were diarrhœa 3, pneumonia 1, anæmia 1, and gangrene 1. Several of the new admissions who were in the advanced stage of the disease and in a neglected and deplorable condition died soon after admission.

8. *Treatment of leprosy.*—The treatment by Dr. Rost's antitoxin serum (leprolin) was commenced in September last, 2 ounces of which were obtained from Rangoon on my application to Dr. Rost. Two lepers suffering from the mixed form of leprosy, of four and eight years' duration respectively, were inoculated according to Dr. Rost's method with very encouraging results. The reaction obtained was a quick rise of temperature varying between 100° and 103°, followed in a few days by restoration of sensation in anæsthetic parts and the subsidence and absorption, to some extent, of infiltrations and tubercular swellings. But further and extended trial of the serum is necessary to determine its curative value in the treatment of leprosy, and, as Dr. Rost himself observes, time can alone show.

9. The cultivation of the B. Lepræ and the method of preparing the serum are fully detailed in a paper by Dr. Rost in the *Indian Medical Gazette* of March last.

2.—*Administration.*

10. The apothecary, Mr. A. S. Nanayakkare, continued to perform his duties satisfactorily, and was of much help to me in the extended work of the Asylum. Mr. Anthonisz, steward, was transferred to the Lunatic Asylum, being succeeded by Mr. E. Ludowyke, who has also performed his duties satisfactorily. The matron and nurse has been assiduous in her work.

3.—*Buildings.*

11. The buildings and grounds of the institution were kept in excellent order. The only structural additions during the year were two bathrooms to No. 9 ward and a room to the nurses' quarters.

12. The cemetery has been extended by three-quarter acre of land acquired by Government. A barbed wire fence is required to prevent encroachments by villagers and the inroads of cattle.

4.—*Water Supply, &c.*

13. The water supply, dietary, and sanitation were in every respect satisfactory.

OUTDOOR DISPENSARY FOR GENERAL DISEASES, HENDALA.

14. 1,921 patients were treated during the year, an increase of 36 over the previous year, being chiefly due to malarial fever, 335 of which were treated as against 284 in the previous year. The largest number of outdoor patients treated at the dispensary was in the third quarter of the year, especially during the month of August after the rains.

15. The health of the district was satisfactory; with the exception of a slight outbreak of measles at Hendala and Kerewelepitiya, there was no prevalence of epidemic disease. Other diseases treated were worms, rheumatic affections, diseases of the respiratory system, diarrhœa and other diseases of the digestive system, ulcers, and skin diseases. The dispensary collections for the year amounted to Rs. 441·35.

GARDEN FUND.

16. The receipts from garden produce, Government allowance, and expenditure on betel, &c., during the year were as follows:—

		Rs. c.
Receipts from garden		1,252 38
Government allowance		837 35
	Total—Rs.	2,089 73
Expenditure on betel, &c.		1,701 7
	Balance—Rs.	388 66

(12) REPORT of the Port Surgeon, Colombo, Mr. H. Bawa, F.R.C.S.E., L.R.C.P., Edin., &c.

I ASSUMED duties as Port Surgeon, Colombo, on the 3rd May, 1904. The professional staff attached to this office consists, besides myself, of Assistant Port Surgeon G. W. R. Fernando, M.B., C.M., D.Ph. Aberd.; Assistant Port Surgeon Hugh P. Joseph, L.M.S., Ceylon; Mr. E. A. Anderson, in charge of the Immigration Depôt; and Mr. E. W. de Silva at the disinfecting station.

2. Assistant Port Surgeon Hugh P. Joseph was sent to Bombay by Government to familiarize himself with plague in its clinical aspects. He left Ceylon on the 10th March and resumed duties on the 22nd April.

3. During the year under review 2,758 steamers visited this port and 460 native sailing vessels. Of this number, 528 worked in quarantine.

The ports of Bombay, Calcutta, Mangalore, Karachchi, Manila, and Mauritius remained plague-infected throughout the year. In the latter part of the year the port of Aden was declared plague-infected. The regulations with regard to working ships from plague-infected ports remain unaltered.

4. No cases of plague were imported during the year, but the following vessels were kept in strict quarantine pending observation and diagnosis of cases with suspicious symptoms :—

ss. Sangola on 14th March.
ss. Sofala on 7th July.
ss. Palermo on 12th July.
ss. Clan Macintosh on 8th September.
ss. Asia on 4th October.
ss. Newton Hall on 8th December.

Under instructions from the Principal Civil Medical Officer cases of pneumonia occurring in a ship from plague-infected ports were removed to the Infectious Diseases Hospital for treatment.

5. Four cases of smallpox were removed from vessels during the year and treated in the Infectious Diseases Hospital. In all cases the infected parts of the vessels were thoroughly fumigated with sulphur dioxide gas, the persons and clothing of the crew disinfected, and vaccination and re-vaccination effected.

6. Cholera was not epidemic in any of the South Indian ports during the year, and no case of cholera or suspected cholera occurred in any vessel from South India. On the 3rd November, however, the ss. Torridge arrived from Bassein (Burma) with a clean bill of health from that port, but with an epidemic of cholera on board. The crew consisted of Europeans entirely. It transpired that the vessel was stocked with water from the river at Bassein, with the result that a day before arrival in Colombo three previously healthy sailors were stricken down with acute choleraic symptoms. They were moribund on arrival, and one died shortly after. The body was taken out to sea for burial and the vessel kept in strict quarantine. In the course of the next two days four more seamen were attacked with cholera and removed to the Infectious Diseases Hospital. Of these, three died, making a total of four deaths out of seven attacks. The master of the vessel demurred at the suggested removal of the remaining healthy contacts to the quarantine camp at Ragama, but eventually twelve members of the crew elected to go into the segregation camp for five days. During their absence the vessel was thoroughly disinfected with sulphur dioxide gas (supplied by the Clayton disinfector on the Government tug "Samson") and with other chemical disinfectants. The vessel left with a fouled bill of health till the water shipped at Bassein was discharged, and after disinfection of tanks a fresh supply of water was taken on board.

7. Disinfection was carried out at the Kochchikade disinfecting station, where there are two Thresh's disinfectors, both working satisfactorily. The site of the station is unsuitable, it being difficult of access in rough weather, and when its approaches are crowded with lighters, &c. Further, it is impossible to segregate contacts or persons landed for disinfection from coolies, &c., assembled for work on the Kochchikade import jetty. It has been decided by the Plague Committee to transfer the disinfecting station to an available site at the root of the Breakwater, which is easy of access by sea in all weathers, and capable of complete occlusion from the neighbouring buildings, &c.

8. All coolies, clerks, &c., allowed to work on ships from plague-infected ports are disinfected as to person and clothing before being permitted to return to their homes. The soiled linen of all passengers from such vessels is disinfected, and the ship's linen similarly treated after the completion of the required period of absence from infected port. The total number of persons (passengers, tally clerks, coolies, &c.) who underwent personal disinfection at Kochchikade during the year was 36,489.

9. The Immigration Depôt at the root of the Breakwater worked satisfactorily under the care of Mr. E. A. Anderson. The depôt was visited regularly with a view to superintendence of its sanitary condition and supervision of the quantity and quality of the diets supplied to the immigrant labourers. The total number of native passengers from Southern India during the year was as follows :—

Miscellaneous deck (traders, &c.)	61,474
Estate labourers	71,297

10. All native passengers from South India without satisfactory marks of vaccination are vaccinated immediately on arrival. During the year 11,387 persons were thus vaccinated. Passengers (other than Asiatics) from plague-infected areas are permitted to land on bond, binding themselves to report daily to the Port Surgeon till the completion of the required period under observation. During the year 1,965 persons were landed on bond and thus reported themselves.

11. *Bills of health.*—The sum realized by the sale of bills of health during the year was Rs. 14,563·50, which was duly credited to the revenue. Monthly returns of the recoveries were forwarded to the Principal Civil Medical Officer. The following is a summary of the revenue from this source :—

		Bills of Health.
Outstanding at end of year 1903		8
Issued during the year 1904		1,488
		1,496
Deduct free bills of health	91	
Outstanding at end of December, 1904	18	109
		1,387

At Rs. 10·50 each = Rs. 14,563·50.

Cattle certificates.—Two cattle certificates were issued during the year, for which the sum of Rs. 21 was realized and credited to Government. The amount realized by the disinfection of soiled linen during the year was Rs. 1,128·52, which was duly credited to the revenue.

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(13) REPORT of the Registrar, Ceylon Medical College, Albert J. Chalmers, M.D. Vict., F.R.C.S. England.

I HAVE the honour to report that the improvement of the College in the teaching staff, apparatus, &c., continues to progress.

2. His Excellency Sir Henry Blake, G.C.M.G., has graciously consented to become the President of the College.

3. A very important event is the introduction of an Ordinance for the incorporation of the Ceylon Medical College. This Ordinance, which is at present before the Legislative Council, provides for the government of the College, and gives authority to the Council to confer Licenses of Medicine, Surgery, and Midwifery and certificates as Apothecary to such persons as may satisfy their requirements.

4. The rules for the conducting of the examinations of the College have been published in pamphlet form.

5. The rules for carrying on the general work of the College have been drafted, revised, and sanctioned by the Principal Civil Medical Officer for temporary use pending the passing of the Ordinance concerning the College.

Lecturers.—The most important appointment of the year is Professor K. C., Browning, M.A. (Cambridge), F.C.S. (London), lately Demonstrator of Chemistry in St. John's College, Cambridge, as Professor of Chemistry and Public Analyst.

7. Another important matter has been the loss to the College of the valuable services of Dr. Vandort as Lecturer in Midwifery after about thirty years' connection with the College.

8. The following new appointments were made during the year:—

Dr. Allan de Saram as Lecturer on Medical Electricity.
Dr. D. Rockwood as Lecturer on Anæsthetics.
Mrs. Fysh as Lecturer on Diseases of Children.

The following changes in the Lecturers have been made:—

Dr. Sinnetamby, Lecturer on Midwifery and Gynæcology, *vice* Dr. Vandort, resigned.
Dr. Philip, Lecturer on Hygiene, *vice* Dr. J. de Silva, resigned.

9. *Laboratory assistants.*—Two new assistants have been appointed, one for Chemistry and the other for Physics.

10. *Buildings.*—The Government have sanctioned the erection of the building for the Public Analyst containing the experimental physiological laboratory and a common room and lavatories for the lecturers and students.

11. *Chemical and physical laboratories.*—The money for the internal fittings of the chemical and physical laboratories in the Technical College has been voted by Government, and it is hoped that they will be ready early in the year.

12. *Teaching.*—A class in Experimental Physiology has been held for the first time this year. Classes in Anæsthetics and Diseases of Children have also been held.

13. Next year the first classes of instructions in the important subject of Medical Electricity will be held, and the students will be taught practically and theoretically the use of the X rays and the methods of diagnosis by electrical methods, and shown some of the modern methods of electrical treatment. It is hoped that soon this department of education will be improved, and that the treatment of diseases by electricity in many forms will be available in Ceylon.

14. *The Library.*—The use of the library by the students has increased during the past year. It now possesses a small stock of up-to-date books, and this is rapidly growing.

15. *English degrees.*—Arrangements are being made with the London University to hold certain medical examinations in Ceylon with the view of enabling Ceylonese students to obtain an M.D. degree with a minimum amount of expenditure.

16. The Conjoint Board of the Royal College of Surgeons of England and Physicians of London have been approached with the view of obtaining facilities whereby the Ceylonese student may obtain the M.R.C.S. (England) and the L.R.C.P. (London).

17. Several students and licentiates of the College have proceeded to Europe to obtain the English qualifications necessary for promotion in the Civil Medical Department.

18. *Students.*—The students urgently require a common room and lavatories, and the sum necessary has been voted by Government for 1905.

19. The number of students at the end of 1904 is:—

Medical students	99
Apothecary students	29
Casual students	2
Total ...	130

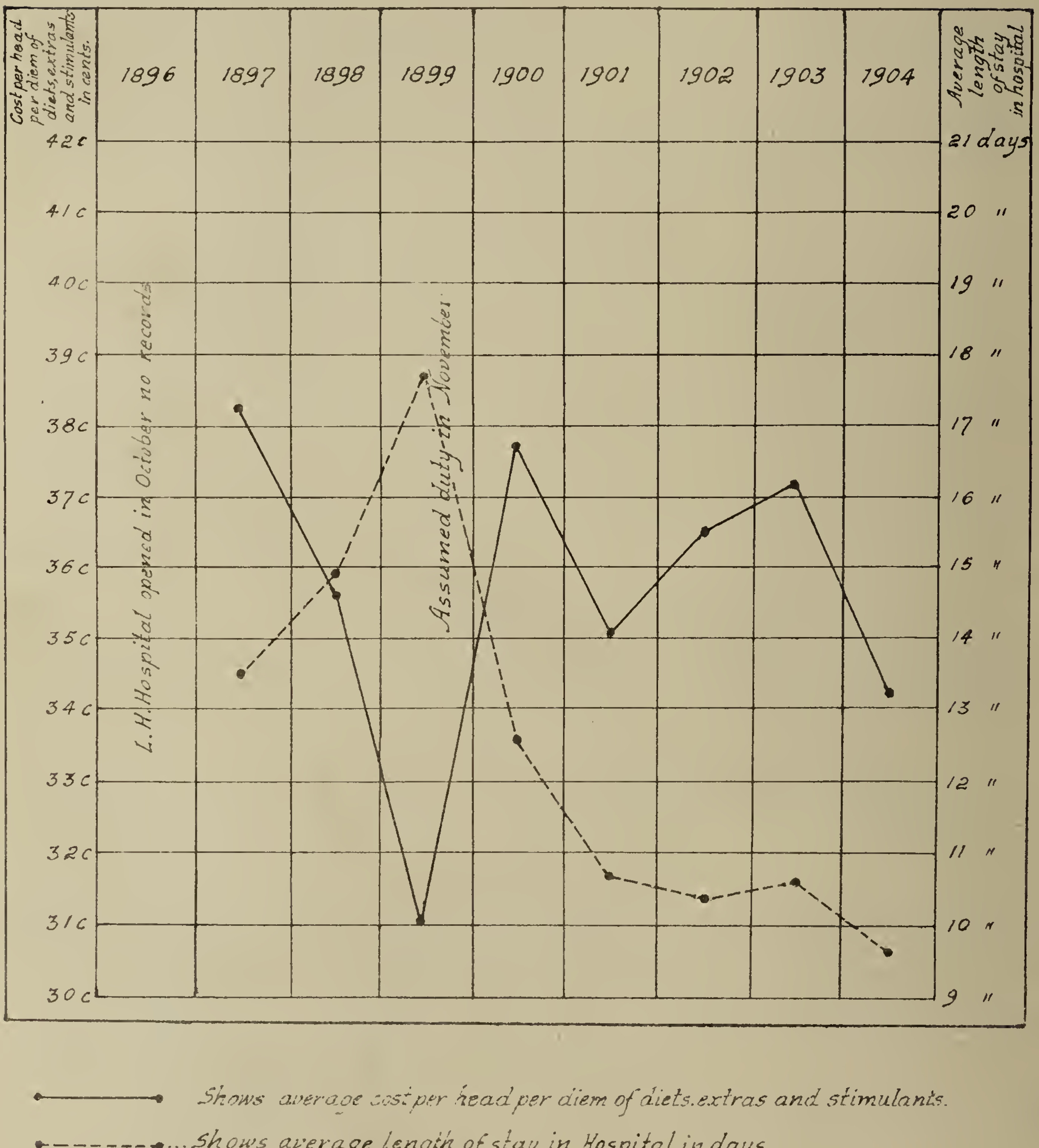
20. The numbers of the new students entered during the year were:—

Medical students	19
Apothecary students	12
Casual students	2
Total ...	33

21. The number of the students who left was:—

Medical students...	14
Apothecary students	9
Total ...	23

Chart showing cost per head per diem of diets, extras and stimulants in the Lady Havelock Hospital.
1897-1904
Also average length of stays in Hospital in same period.



22. *Fees.*—The total amount of fees collected in 1904 was Rs. 16,635, which is a decrease of Rs. 636·50 due to a very large number of students who entered in 1899 completing the payment of their composition fees in 1904.

23. *Prizes.*—The only college prizes not awarded were the Pathology, Medical Jurisprudence, and Hygiene.

24. *Examinations.*—The following passed the Medical Examinations :—

Medical Preliminary Examination	13
First Professional Examination	13
Second Professional Examination	12
Third Professional Examination, Part I.	4
Third Professional Examination, Part II.	6

25. The following passed the Apothecaries' Examination :—

Apothecaries' Preliminary Examination	1
Apothecaries' First Examination	11
Apothecaries' Second Examination	7

26. *Government prizes.*—The following are the awards of the Government prizes :—

Medical.

Preliminary Examination Medal...	Mr. E. H. Beling
First Professional Medal	Mr. H. J. Hazari
Second Professional Medal	Mr. S. A. Vairakiam
Diploma Medal	Mr. S. T. Gunasekara

Apothecaries.

First Apothecaries' Scholarship	Mr. V. Ponniah
First Apothecaries' Medal	Mr. I. M. Ghouse

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(14) REPORT of the Medical Officer in charge of the Lady Havelock Hospital for Women and Children, Mrs. M. N. Fysh, M.B., London.

1. *Number of patients treated.*—The work at this hospital again shows an increase, the total number of patients treated being larger than in any previous year, viz., 1,159. This is a very large number for a hospital with only 34 beds. Eighteen of the total were paying patients, for whom we have six beds; so that 1,141 pauper patients were treated, with only 28 beds. The daily average sick—31·83—shows that the wards were almost always overcrowded, and I think the limit has about been reached in the number of patients we can treat. Many have had to be turned away for lack of room, so that if the work is to go on increasing, as it naturally ought, it must be by providing additional accommodation, and I would again recommend the building of another ward of eight beds, which would about meet our needs for the present.

2. *Cost of patients.*—Although the number of patients has increased so much, it is encouraging to note that the total cost of diets, extras, and stimulants has not increased in proportion. In 1901–1903 the increase was not great, and 1904 actually shows a decrease of over Rs. 400, as compared with 1900, though over 200 more patients were treated.

The accompanying graphic chart which I append to this report shows the facts in a striking manner, and I think it proves that the hospital has not been extravagantly managed, and that some progress has been made in economizing the money of the Government.

3. *Paying patients.*—The number of paying patients rose this year, being 18, as against 12 in 1903. Of these, nine were English, one German, two Burghers, five Sinhalese, and one Tamil. The paying wards are small and somewhat inconvenient and are very scantily furnished, and I think we cannot expect larger numbers until better accommodation is provided for them.

4. *Children.*—There were 322 children up to twelve years, 187 girls and 135 boys.

5. There were 166 cases of diseases peculiar to women.

6. *Dysentery.*—There were 46 cases of dysentery with 5 deaths, comparing most favourably with last year, when there were 60 cases with 15 deaths.

7. *Typhoid.*—Of enteric fever there were 51 cases this year with 16 deaths. This disease too was of milder type than last year, when I had 39 cases with 17 deaths.

8. *Death-rate.*—The total death-rate was 6·98 per cent., as compared with 9·76 last year.

9. *Operations.*—There were forty-six surgical operations. Of these, thirty were major operations with only one death, *i.e.*, that of an infant of eight months old with intussusception. The intussusception was reduced without difficulty, but the abdomen remained distended, and the child died about an hour after the operation. No chances were made less favourable by the treatment it received before admission, viz., the forcing of a cloth soaked in some concoction up to rectum in order to make the bowels act. Other operations of interest were : one successful ovariotomy ; two for hæmatometia, one in a girl of fourteen who had atresia of the vaginal orifice, and the other for occlusion of the os by the cicatrix after a difficult labour ; and one McEwen's operation for a very severe case of knock-knee. The latter is of interest on account of its rarity in Ceylon, there being very few cases of rickets owing to the almost entire absence of patent foods from the diet of the native children. In this case the unfortunate boy had been fed on condensed milk. It is only the second case of ricketty deformity admitted into the Lady Havelock Hospital in the last 5¼ years, and only about the fifth case I have seen in Ceylon, although many thousands of sick children have been seen by me in that time at the outdoor dispensary in Borella.

10. *Nursing staff and Training School.*—Good progress has been made this year in the nursing, and the work and the wards have been kept more up to the standard of an English hospital than I have seen in previous years. This is partly owing to the increase in the equipment vote, which has enabled me to provide a more sufficient quantity of linen and other necessaries for the beds ; but also, and chiefly, to the capable and conscientious work of the matron who was appointed in the end of 1903.

11. *Difficulties.*—She reports that the work has been done in the face of much difficulty, as there has seldom been the full complement of nurses, owing to vacancies on the staff, illness, and holidays.

12. *New probationers.*—Seven new probationers joined ; of these, four resigned, as they found the work too hard, and one promising pupil nurse was obliged to leave on account of failing eyesight.

13. The matron further reports that, considering the disadvantages under which they have laboured, the nurses have done their work satisfactorily.

14. *Work of the pupils.*—The pupils have made fair progress in practical work, care of helpless patients, sickroom cookery, and bandaging, but in theory they are backward. She further points out that the nurses are nearly all very young, and quite unused either to menial work or to study, that the work of the hospital is increasing, and more is expected from them from year to year in the endeavour to raise the standard of the nursing.

15. *Recommendations for improvements.*—I hope that something will soon be done to improve the conditions under which they work, that is, by giving more pay with an allowance for washing and better sleeping accommodation. I would recommend also that another day attendant should be provided.

16. *Apothecary.*—Miss M. S. Fernando, who had held the appointment of apothecary to this hospital ever since its opening, resigned in May of this year on account of ill-health, and Miss Siebel has been appointed to succeed her.

17. *Branch Hospital and Outdoor Dispensary for Women and Children.*—One hundred and ninety patients were treated in the Branch Hospital this year, and of these ten were received into the Salvation Army Rescue Home. Nine ran away, but the tenth did well, and has been restored to her friends.

18. Of the 190, there were 2 deaths, 141 were discharged cured, 37 relieved, and none were not improved. The new room provided for dressings and examinations has also made a great improvement and has been of great service, and the addition of Rs. 100 to the equipment vote has enabled me to provide the patients with a better supply of clothes, and improvement in this respect has been most marked in consequence.

19. The number of attendances at the outdoor dispensary was 17,052 ; 3,452 were children, 1,340 being boys. There were 39 cases of phthisis, 17 of cancer, and 10 of leprosy.

(15) REPORT of the Medical Superintendent, De Soysa Lying-in Home, M. Sinnetamby, M.D. Brux., F.R.C.S. Edin.

I HAVE the honour to submit my annual report for the year 1904.

2. The total number of patients treated during the year was 776, as against 818 in 1903 and 737 in 1902. I am unable to assign any cause for the slight diminuation in the number treated. Of the total treated, 751 were discharged cured, eight died, and seventeen were remaining at the end of the year. The percentage of deaths to total treated was 1·30 as against 2·07 in 1903.

3. Of the eight cases of deaths, five were due to accidents of childbirth, two to puerperal causes, and one to non-puerperal causes. Of the five due to accidents of childbirth, four were due to puerperal eclampsia and one to placenta prævia. Of the two due to puerperal causes, one was due to pulmonary embolism and the other to melancholia ; the cause of death in the non-puerperal case was heart disease.

4. No death occurred during the year from puerperal infection. This result was due to the abolition of the routine practice of douching, and to the introduction of aseptic methods in normal and operative cases.

5. Of the nine cases of puerperal eclampsia, four proved fatal. This unprecedented high mortality was partly due to the admission of most of the cases in a moribund state, and partly to complications setting in after the cessation of the fits. In one case the immediate cause of death was due to pulmonary odema, and in another to severe hæmorrhage from the spongy gums.

6. There were only four cases of placenta prævia, of which one proved fatal. This case was admitted in a moribund state, and the patient died soon after delivery.

7. During the year under review we had seven cases of anchylostomiasis in its last stage complicating pregnancy, without a single death. This result was due to an improved method of treatment founded on a rational basis.

8. In anchylostomiasis instead of the physiological hypertrophy there is dilation especially of the right side of the heart. In this state the heart is ill-prepared to withstand the extra strain thrown on it by labour.

9. Of the 757 in admission, 693 were admitted before the commencement of labour, 58 after commencement of labour, and 6 after delivery. Subjoined I give in a tabular form the classification of the cases :—

Table I.—Classification of Obstetric Cases.

Class.	Division.	Subdivision.		Admitted.	
I.—Natural ...	Normal ...	Occipito anterior		443	
		Occipito posterior		24	
					467
	Morbid ...	Lingering ...	Face	1	
			Brow... ...	2	
			Persistent occipito post	0	
		Operative ...	Forceps ...	88	
			Version ...	28	
			Craniotomy ...	1	
					120

Class.	Divison.	Subdivision.	Admitted.	
II.—Preternatural	Pelvic	Full breech	7	
		Frank breech	2	
		Footling	11	
		Knee	1	
				21
	Transverse	Arm	6	
		Shoulder	3	
	Compound	Head and arm	1	
		Foot and arm	2	
				12
III.—Anomalous on maternal complications	Plural births	Twins	6	
		Triplets	1	
				7
	Hæmorrhage	Accidental (1) Placenta prævi (4) Post partum (0)		
	Retained placenta	Simple retention (2) Morbid adhesion (3)		
	Puerperal convulsion	Eclampsia (9)		
	Ruptures	Cervix (11) Uterus (0) Perinæum (8)		
	Descent of funis	Head	2	
		Shoulder	—	
		Breech	1	
		Footling	—	
				3
IV.—Anomalous fatal complications	—	Hydrocephalus	—	1
V.—Ovum	Mole	Hydatiform	—	1
VI.—Abortion	Causes referable to mother		18	
	Delivery before arrival		6	
	Spurious		120	
				144
		Total	—	776

Table II.—Classification of the Diseases complicating Pregnancy at the time of Delivery.

General diseases	Enteric	1
	Dysentery	3
	Malarial fever	2
	Syphilis, secondary	1
	Anchylostomiasis	7
Circulatory system	Morbus cordis	2
Digestive system	Diarrhœa	2
Lymphatic system	Elephantiasis	1
Respiratory	Pneumonia	1

Table III.—Mortality Table.

Mothers	Recovered	751
	Died	8
Children	Born alive	529
	Born dead	127

Table IV.—Obstetric Operations.

Class.	Division.	Subdivision.	Admitted.	
Forceps	Difficult	Head	78	
		Brow	2	
		Face	1	
	Complex	Prolapse of cord with head and hand	3	
	Preternatural Compound	Head and hand	2	
				86
Forceps rotation	Difficult	Persistent occipito posterior	—	20
Version, podalic	Complex	Placenta prævia	4	
		Transverse	13	
	Premature births	Small head	11	
	Difficult	Flat pelvis	4	
				32
Craniotomy	Difficult	Hydrocephalus (head)	—	1
Embryotomy	Preternatural	Transverse	—	1
Curetting after abortion and hydatiform mole			—	2
Evacuation of uterus	Abortion	Removal of placenta and ovum	—	18
Separation and removal of placenta	Complex	Morbidly adherent placenta	—	3
		Simple retention	—	2
Acceleration of labour by water bags	Complex	Placenta prævia	—	4
		Puerperal eclampsia	—	6
Suturing,	Ruptures	Cervical	—	11
		Perineal	—	8
		Total	—	194

10. I have introduced forceps rotation in persistent occipito posterior cases. This was done on twenty occasions with very good results. This procedure has superseded the brute force often resorted to in such cases, which sometimes end in death of the child from intracraneal hæmorrhage and in serious ruptures of the maternal parts, perineal and vaginal.

Table V.—Presentation and Position classified.

Vertex ...	First	404
	Second	122
	Third	10
	Fourth	20
Breech	First	8
	Second	3
Face ...	Fourth	1
Brow ...	Fourth	2
Knee ...	—	1
Footling ...	—	18
Transverse ...	Dorso anterior	6
	Do. posterior	7
Descent of funis with	Head	2
	Breech	1
	Head and hand	2
Twins ...	Both vertex	2
	Both breech	2
	Breech and foot	2
Triplets ...	Head	1
Placenta prævia		4
Premature birth		11
Compound head and hand		2
Compound hand and foot		1
Abortion		18
Delivered before arrival		6
Spurious		120
	Total ...	776

11. The popularity of the institution with the Mohammedan population was as conspicuous as in previous years. The number of admissions from this class of patients was twenty-eight. This I consider a satisfactory sign considering their reluctance to be attended by a medical man, often preferring death to interference. The most noteworthy factor, I am glad to say, is that they often seek admission not as a last resource forced by sheer necessity to escape death, but by choice long before commencement of labour.

12. The Lying-in Home as a training institution is doing excellent work. The European method of conducting labour, which has hitherto been denied to the poor villagers, will be gradually introduced among them.

13. During the year eleven pupils (eight Sinhalese and three Tamils) were trained and sent out to various Provinces. The three Tamils hail from the North, where their sphere of usefulness will prove a great blessing to the poorer classes, who often prefer death to attendance by a medical man

14. The restriction of this class of midwives to six at a time will prevent the speedy introduction of European midwifery practice into villages. I would therefore venture to submit that the number be increased to eight or even ten.

15. Government sanctioned four pupils, in the absence of ward attendants, when the admission into this institution was barely a hundred. As the admission has since increased by almost eightfold, the increase to eight or ten pupils is clearly an absolute necessity to meet effectively the growing popularity of the institution.

16. This institution also trains two other classes of midwives whose sphere of usefulness is generally restricted to the well-to-do class of people in towns, *vide* table below :—

Table VI.

	Remained from 1903.	Admitted during 1904.	Passed in 1904.	Out of those passed.			
				Sinhalese.	Tamils.	Burghers	Europeans.
Paying pupils	1	3	2	—	—	2	—
Free pupils	—	—	—	—	—	—	—
Stipend pupils	4	13	11	8	3	—	—
Total ...	5	16	13	8	3	2	—

17. *Equipment.*—The increased vote allowed during the year has enabled me to give more comfort to the patients. The vote now allowed, however, will prevent my introducing aseptic cots to the labour wards, which is a real necessity.

18. *Instruments.*—The rapid advance made in obstetric science has compelled me to apply for new instruments and appliances, which I hope will be allowed.

19. *Staff.*—There is no change in the staff, and in operative cases help is obtained from one of the resident officers of the General Hospital. I think the time has come to consider the appointment of a qualified resident officer.

20. *Accommodation.*—The question of providing further accommodation is before Government. The estimates and plans furnished by the Public Works Department for its extension, I hope, will be sanctioned by Government as early as possible.

(16) Report of the Medical Officer, Convict Establishment, Owen Johnson, L.R.C.S.

During the year the Mahara jail was separated from the Convict Establishment and placed under an independent Superintendent, but the change did not effect my position, and I continued under the former designation of Medical Officer of the Convict Establishment to exercise medical supervision over the Mahara jail also. This prefactory observation is made to remove a possible misapprehension which may arise in regard to my duties in contrasting my report, which embraces the Mahara jail, with that of the Superintendent of the Convict Establishment, to whose reports it has been customary in former years to append the Medical Officer's.

2. The two stand-out features of the year were the low death-rate—the lowest for more than a decade—and the epidemic of fever at Mahara, which beginning in the early months of the year went on increasing gradually till it assumed serious proportions in June, and continued unabated till almost the end of the year, when it began to show signs of decline. This epidemic has completely destroyed the illusive belief I entertained, and gave expression to in my report for 1903, that malaria at Mahara was becoming a thing of the past, and that, but for the existence of the rice fields in the neighbourhood of the jail, the station would be a healthy one. As compared with the year 1903, there was no great abnormality in the conditions of the weather, and other things being equal, it has puzzled me to know why the former year was so much healthier. The conditions in fact were more favourable to a healthy year, as all the stagnant pools in the quarry were filled up, and no excavations were necessary to expose the rock in the quarry, so that there was less disturbance of soil.

3. Of course, the modern accepted mosquito theory finds most favour, but even at the risk of being considered a heretic, I must confess to being assailed with doubts as to the anopheles being solely or even mainly responsible for the propagation of the disease in at least the Mahara jail. It has not been proved that the anopheles were more plentiful during the year than in former years, but, on the other hand, only a very few and their larvæ were found after much difficulty, and of the few the majoriety were of the variety "Barbirostris," which has been pronounced to be an innocent type. Favourable breeding grounds exist in the rice fields always, and it is inexplicable why they should afford greater hospitality to the mosquitoes in one year than in another; but there was no evidence whatever of increased hospitality, and it is a significant fact that there was no epidemic of fever in the surrounding villages. If the mosquito theory holds good, how did the villagers, living under less favourable circumstances, escape their attention, and why were the prisoners and prison officers and their families only attacked? I am unable to advance an alternative theory, but I cannot help associating the epidemic in some inexplicable manner with the quarry, and I am supported in this belief by the fact that in the officers' quarters the first to be attacked in a family was always the officer himself and subsequently the members of his family. Here there appears to be some evidence that the infection was first taken independently of the mosquito, but I am quite open to be convinced that the mosquitoes subsequently played a subsidiary part, and conveyed the parasite from the original host to the other members of the family. Similarly, it may be that a large number of prisoners were infected in the quarry and afterwards infected their fellows in the wards through the agency of the few anopheles found there.

4. The clinical symptoms in the large majority of cases left no room for doubt as to the malarial origin of the epidemic, though the malarial parasite was discovered in the blood of only a small proportion of those attacked; but this is easily explained by the fact that quinine had been systematically administered as a prophylactic.

5. No less than 877 cases of fever were treated in the hospital as against 361 in the previous year, and the worst months were June, September, and October, when 106, 104, and 105 cases respectively were taken on the sick list. This number does not include those cases taken under observation for a period of twenty-four or forty-eight hours, at the end of which, if free from fever, they were sent back to work. The exact figures of these cases are not available, as records were kept only during the last quarter of the year, when 671 cases were admitted into the observation ward.

6. A very satisfactory feature about this epidemic is that it added but little to the mortality; in fact in proportion to the number treated the mortality was lower than in the previous year. There were only 4 deaths from fever as against 2 in 1903, and the total deaths for 1,581 treated were only 15, giving a percentage of ·94, as against 11 for 956 treated in 1903, with a percentage of 1·15.

7. The administration of quinine as a prophylactic measure seemed to have no effect whatever on the progress of the epidemic, and the closest attention to sanitation and the removal of all causes, so far as practicable, favourable to the breeding of mosquitoes, in no way conduced to its abatement. In August I recognized the necessity for, and advocated the removal to Colombo of, such prisoners as, having had more than two or three attacks of fever, had become debilitated and cachectic, and also the reduction of the strength of the jail, both with a view to prevent further deterioration of health and increased susceptibility to other diseases in the former case, and to expose as few as possible to fresh infection, so that the disease may die out from inanition for want of fresh subjects. At first my proposal was objected to on the ground that infected prisoners would, if removed to Colombo, infect healthy ones in the Colombo jails, but towards the end of the year I am glad to report that it was accepted in a modified form, and an exchange of an equal number of prisoners was agreed to between Mutwal and Mahara, and the strength of the jail was allowed to become automatically reduced by the sick, who were in large numbers transferred weekly to the Borella Convict Hospital, not being replaced by others. In this manner, at the end of the year, the strength of the jail, which was over 600, was brought down to 450, and the epidemic gradually subsided. The apprehension that healthy prisoners in the Colombo jails would become infected by the Mahara men has, I am glad to say, not been realized, as there has been no increase of sickness traceable to the transfers.

8. I have placed this epidemic in the forefront of my report as it has been the largest contributor to the sick-rate, and but for it I should be in a position to pronounce the general health as having been most satisfactory, even more so than the preceding year, which in comparison with its immediate predecessors was a very favourable one indeed. The daily average sick for all the jails was only 97·73 as against 96·65 in 1903, and this increase is entirely attributable to Mahara, where the average rose from 19·02 to 25·60, whereas in the Borella Convict Hospital there was a fall of 5, notwithstanding the fact that a large number of Mahara cases were, owing to the congested state of the hospital there towards the end of the year, transferred for further treatment, and thus became a

double charge on my averages. If the cases thus transferred were excluded, the daily average would show to great advantage compared with the previous year, and afford a striking indication of the marked improvement in the general health in the Colombo jails. If the daily average be slightly higher, a more than compensatory feature is the low death-rate, which fell from 3·90 to 2·33 in relation to strength, and from 2·10 to 1·22 in relation to total treated. Satisfactory as this record is the falling-off in the death-rate can only be fully appreciated by taking the figures for the Borella Convict Hospital separately. In 1903 there were 46 deaths or two less than the previous year, but in the year under review only 29 deaths occurred, establishing, I believe, a record.

9. Excluding malarial fevers, the chief diseases were, in order of frequency, diarrhœa, dysentery, diseases of the eye, and pneumonia. Of the deaths, dysentery claimed 17 victims, fevers 7, pneumonia 7, diarrhœa 5, and all other diseases 8.

10. I am glad to report the great improvement in the prevalence of dysentery, especially in the Welikada jail. Only 323 cases were treated in all the jails as against 422 in the previous year, the falling off affecting principally Welikada and Hulftsdorp. In the former jail the decrease was 103 and in the latter 28. As in the previous year, the type of the disease generally at Hulftsdorp was very severe, and it claimed no less than 5 victims out of a total of 27 treated.

11. The number of diarrhœa cases were much the same, but there was a good improvement in the death-rate from this cause. Only two cases of acute diarrhœa occurred in the Welikada jail, and Mutwal, which had only one case in May, enjoyed a remarkable immunity, considering that in former years cases running so rapid a course as to terminate fatally within a few hours of onset of symptoms and before removal to hospital invariably occurred about the beginning of the north-east monsoon.

12. There was a marked falling off in pneumonia and a very pleasing improvement in the death-rate. Welikada contributed only 8 cases with 1 death, Mutwal 5 with 2 deaths, and Mahara 14 with 4 deaths. The figures for Welikada and Mutwal can be appreciated only by comparison with those of 1903, when 38 cases occurred with 15 deaths. The most noticeable feature in this connection is the improvement at Mutwal, both as regards the number of cases sent to hospital and the comparatively mild type of the disease. Not a single case of the malignant type usually associated with Mutwal, and terminating fatally within a few hours of the first appearance of symptoms and before arrangements could be made for transfer to the Borella Convict Hospital, occurred.

13. The admissions for eye affections too showed an appreciable decrease. Mahara headed the list with 62, Welikada followed next with 47, then Mutwal with 41, and lastly Hulftsdorp with only one case. The total, however, includes 16 more treated at the Borella Convict Hospital from Mahara, but they form a part of the 62 cases at that station who were transferred for further treatment. The figures for Welikada, as I pointed out in my report for 1903, are misleading, as the majority were cases who had contracted conjunctivitis in the Mutwal quarry, and were, after a short period of observation, transferred to Welikada to work in the shade. This jail itself was practically free from the disease. Both the Mahara and Mutwal cases were chiefly conjunctivitis resulting from the irritation produced by the shoals of dust in the quarries during the north-east winds and the fierce glare of the sun, and wounds and ulcers of the cornea caused by injuries received during stone breaking.

14. Influenza prevailed to very much less exent than in the previous year, and never in anything like an epidemic form, but during the epidemic of fever at Mahara there were several cases which simulated an influenzal type, though, owing to the malarial taint, a differential diagnosis was not possible.

15. The record of improvement goes still further and shows a decrease in the number of enteric cases, the total for all the jails being 17, as against 23 in 1903. Of this total, Mahara had 10 to its credit, Welikada only 5, and Mutwal and Hulftsdorp each one. At Mahara the first case appeared in January. He was a recent arrival from the Mutwal jail, and it was just within the bounds of possibility that he took the infection in that jail from a case which occurred there on 17th December by visiting an infected latrine. Three other cases occurred in February possibly traceable to the same cause. The infection in the later cases could not be satisfactorily traced, and the latrines were held to be the probable culprits. But, so far as this jail was concerned, I am bound to admit that I was not satisfied from the clinical symptoms in the majority of cases that they were genuine enteric, though the Widal's reaction was positive. I preferred, however, to err on the safe side rather than run a risk in rejecting the positive evidence of the test. At Welikada the first case occurred in January, and as he was a recent arrival from Kurunegala it was thought, though never demonstrated, that the infection was taken there. After a long interval the next case occurred in May. This prisoner was a recent arrival from Jaffna, and although the infection could not have been positively traced to that station, I felt satisfied from the facts ascertained by Dr. Santiago as to the man's antecedents before his conviction that he took the infection in the Jaffna bazaars. The subsequent cases at Welikada, another in May, and one each in June and July were presumably traced to latrines infected by the last case. At Hulftsdorp a case occurred in June, who was supposed to have taken the infection outside, as during the period he was under remand he used frequently to be taken to the Itinerating Courts at Welisara and Pasyala. In August there was one case at Mutwal, but as there had been no enteric in that jail for a period of about nine months, and the disease appeared more than five weeks after he had been transferred from the Welikada jail, the source of infection was a mystery.

16. Thirty-seven cases of mumps and three of chickenpox were treated in the wards of the Infectious Diseases Hospital, and a small epidemic of the latter disease occurred amongst the inmates of the female jail at Welikada, necessitating the transfer of cases to the hospital at Kanatta. All the cases of chickenpox were introduced by new arrivals who came with the disease, but how mumps which first began in Mutwal in March and in Welikada in June, and tenaciously clung to these jails till the end of the year, though in a sporadic form, in spite of all efforts to stamp it out, was introduced, was never traced.

17. I think I have proved my case that but for the epidemic of fever at Mahara the year was a healthy one, but I am sanguine enough to hope for even better results in the future, and I purpose here to make a few observations as to the principal contributory factors to the sick- and death-rates of the jails and the remedial measures to counteract them. These I indicated in my report for 1903, and the experience of another year has served to strengthen my convictions.

18. Diseases and their causes must be divided into unavoidable and avoidable. The unavoidable diseases are such as are due entirely or mainly to climatic causes, such as influenza and

pneumonia at certain times of the year, to causes dependent on the occupation followed by the prisoners or under their control, such as conjunctivitis produced by dust and the fierce glare of the sun and also wilfully with the object of shirking work, and injuries and ulcers of the cornea to constitutional weakness and consequent increased susceptibility to disease and to enforced residence in Mahara, and the almost certainty of contracting malaria in that station in a fair proportion of cases. The improvement during the year as regards pneumonia, excepting the low death-rate, is one for which neither my assistants nor I could take credit, and all I could say is that in that respect we were fortunate. As regards constitutional causes, there is no doubt that a large number of prisoners in a very enfeebled state of health are received into the jails, and many cases are admitted to the sick list immediately after conviction and continue throughout the year to burden the sick-rate.

19. Till it is demonstrated beyond a doubt how the malarial infection is taken at Mahara, I cannot suggest any effective means of combating its influence, and my experience of the recent epidemic has brought home to me the conviction that when the indications point to an increase of the disease there should be no delay in reducing the strength of the prison, with the object of exposing as few as possible to infection, and transfers to the jail should be suspended till there are unmistakeable signs of the subsidence of the epidemic. Of course, in making this recommendation I know that serious inconvenience would be caused to the Harbour Works, but as Chief Medical Officer my duty is to see that all avoidable causes of diseases are removed at any cost.

20. The principal avoidable diseases are diarrhœa and dysentery. In my opinion the penal and light labour diets are mainly responsible for the production of diarrhœa, and the irritation set up very often becomes the determining cause of an attack of dysentery. I would again press strongly for improvement of these diets. The improvements in the latrines at Mutwal and Mahara have no doubt done very much in reducing the number of dysentery cases, and I feel hopeful that when the improvements in contemplation are effected at Welikada too there will be a still further reduction. The investigations made by Dr. Castellani having proved that dysentery in the jails is chiefly of bacterial origin, he prepared and inoculated a small number of prisoners in Welikada with a protective vaccine, but the experiment being on a limited scale, and too short a time having elapsed since the first subjects were operated upon, I am unable to speak as to its efficacy. Two subjects, however, contracted the disease, and one of them has had no less than four attacks since he was operated on.

21. The substitution of husk-beating for light labour in place of the nominal task of chamber-pot cleansing which obtained in 1903, is, in my opinion, a retrograde step, as the subjects placed on light labour are generally those whose health having become impoverished by disease and long residence in hospital require liberal feeding, and are consequently unfit for monotonous labour even though the task be reduced to one-fourth or one-eighth. The two operating together—unsuitable diet and uncongenial labour—induce a second attack of diarrhœa or dysentery in a very short time, necessitating re-admissions to hospital, and thus a light labour cycle is created. In this manner the admissions to hospital are inordinately increased, and I could prove by figures that if these re-admissions were eliminated there would be an appreciable reduction in the number requiring hospital treatment.

22. I am glad to report that increased facilities were afforded me during the year for the transfer of convalescents to the Negombo jail by the extension of the concession to prisoners in the penal stage who, as I pointed out in my report for 1903, are generally those who require it most. This enabled me to deal with a large number of cases, who, otherwise, would either have been long detained in hospital or been sent to the light labour gang and its injurious results. But the Negombo jail does not satisfy the requirements of the Convict Establishment, as the accommodation being very limited, convalescents are sent back too early and before they are fit to resume hard labour, to make room for fresh arrivals, with the result that in many cases, very soon after their return, they begin again to be a burden on the sick-rate, and thus nullify the object of their transfer. I would strongly urge the creation of a second convalescent jail within easy reach of Colombo, and no station would serve the purpose better than Kalutara, where the buildings already exist.

23. During the year very great improvement was effected in the latrines at Mahara, Mutwal, and the Convict Hospital by the provision of cemented platforms and Doulton's squatting plates superseding the antiquated wooden seats and double buckets. This renders disinfection of the latrines easy and thorough, and minimizes the danger of communication of disease through their agency. The latrines at Welikada, however, have not yet received attention. The objectionable feature connected with the cleansing of buckets in the Borella Convict Hospital has been removed by the construction of a separate cistern with a tap over it from which a constant supply of clean water is now obtained. Owing to an urgent representation to Government by the Principal Civil Medical Officer regarding the case of enteric fever in the Hulftsdorp jail, the water supply to that prison was improved, and water for drinking purposes is now obtained direct from the tap.

24. As regards accommodation, the only change was the further demolition of some of the buildings at Hulftsdorp, and on account of the reduced accommodation there the transfer of some prisoners to Welikada. It was in contemplation to construct new buildings in place of those demolished and plans and estimates were made and approved, but no vote being included in the Supply Bill for this year, it is presumed that it has been decided to defer the work.

25. The improvements still necessary and which I would strongly recommend in addition to the latrine accommodation at Welikada and water supply to all the jails are—

(1) Improved drainage to the officers' quarters at Mahara.
(2) The construction of two "lime kiln" incinerators at Mahara to supersede the present method of burial of night soil.
(3) An extra "lime kiln" incinerator for Welikada.
(4) Cemented or concrete floors to the wards of the Borella Convict Hospital in place of the obsolete system of mud and cowdung.
(5) Tiles to replace the cadjan roofs of the Borella Convict Hospital.
(6) A latrine connected with the diarrhœa wards of the Borella Convict Hospital for night use.
(7) Improved dispensary accommodation in the Borella Convict Hospital.
(8) Increased window space to "B" ward of Borella Convict Hospital to improve light and ventilation.

26. I am afraid there is no prospect of improving the nursing service. Since my assumption of duties I have had the greatest difficulty in obtaining candidates with a previous training or some knowledge of hospital duties, and the only reason I can assign for the difficulty is the objection to the discipline of jail service. But an improvement could be effected in one direction, and I have addressed the Superintendent on the matter. I consider that the nurses, being appointed to attend on the sick, should be relieved of all other duties, be entirely at my disposal, and not be compelled to perform relief duty during the meal hours of the regular guards. At such times, very often during the busiest hour of the forenoon, the nurses are not at my disposal, are not permitted to leave the wards even to fetch medicines for the sick, and have to stand sentry with baton in hand.

27. I append the usual tables furnishing information in a convenient form for comparison with the two previous years. Of the total of 3,491 treated, 1,857 were at the Borella Convict Hospital, 1,581 at Mahara, and 53 in the female hospital at Welikada. The Convict Hospital cases were made up of 967 from Welikada, 497 from Mutwal, 298 from Mahara, and 95 from Hulftsdorp, and the 29 deaths were distributed as follows: 13 for Welikada, 5 for Mutwal, 3 for Mahara, and 8 for Hulftsdorp.

A.—Table showing the Strength, Rate of Sickness, and Mortality, in the Convict Establishment, 1904.

	1902.	1903.	1904.
Average daily strength	1,663·87	1,612·37	1,630·51
Average daily sick	125·35	96·65	97·73
Percentage of sick to strength	7·53	5·99	5·99
Percentage of deaths to strength	4·32	3·90	2·33
Percentage of deaths to total treated ...	1·84	2·10	1·22

B.—Table showing the Average Number of Days the Patient stayed in the different Hospitals of the Convict Establishment and the Average Daily Sick.

Hospital.	Average Number of Days.			Average Daily Sick.		
	1902.	1903.	1904.	1902.	1903.	1904.
Borella Convict and Infectious Diseases ...	14·54	9·79	9·66	88·04	75·97	70·82
Mahara	6·85	6·26	5·23	30·82	19·02	25·60
Female, Welikada	8·44	10·21	1·82	1·82	1·66	1·31

C.—Table showing Chief Diseases with Mortality in the Convict Establishment.

Diseases.	Admissions.			Deaths.		
	1902.	1903.	1904.	1902.	1903.	1904.
Fevers	1,106	654	1,198	3	7	7
Diarrhœa	849	547	558	15	8	5
Dysentery	675	422	323	22	18	17
Diseases of the Eye	234	228	168	—	—	—
Pneumonia	65	53	32	24	24	7
Injuries	271	148	99	2	—	—
Other Diseases	707	839	1,113	6	6	8
Total ...	3,907	2,891	3,491	72	63	44

D.—Table showing the Admissions for Dysentery and Diarrhœa from the different Jails in the Convict Establishment.

Diseases.	Welikada.			Mutwal.			Mahara.			Hulftsdorp.		
	1902.	1903.	1904.	1902.	1903.	1904.	1902.	1903.	1904.	1902.	1903.	1904.
Dysentery	337	253	150	110	76	62	47	10	22	44	55	27
Diarrhœa	350	207	176	108	57	93	54	35	42	8	13	22
Total ...	687	460	326	218	133	155	101	45	64	52	68	49

Table I.—Estate Medical Aid Receipts and Expenditure in the Civil aud District Hospitals during 1904.

RECEIPTS.	Amount. Rs. c.	Total. Rs. c.
District Hospitals.		
1. Diets: paid by estates at 30 cents a day ...	33,159 0	
2. Diets: paid by Government for "others" at 50 cents a day	53,554 0	
3. Funeral expeuses of "others"	978 35	
4. (*a*) Medicines sold and prescriptions compouuded at dispeusaries ...	10,133 82	
(*b*) Collections at dispensaries ...	1,646 31	
(*c*) Medicines used by "others" in hospitals	20,970 49	
(*d*) Medicines used by "others" in dispensaries ...	20,232 8	
5. Paid by estates for visits ...	18,397 0	
6. Sale of drugs, unserviceable articles, &c., from Civil Medical Stores ...	1,759 87	
7. Recoveries made for maintenance of "others" ...	3,457 67	
		164,288 59
Civil Hospitals.		
1. Paid by estates for labourers at 30 cents a day ...	12,778 10	
2. Paid by estates for visits ...	2,150 0	
		14,928 10
Grand Total ...	—	179,216 69
Export Duty ...	—	148,555 72
Deficit ...	—	210,234 59
Total—Rs.	—	538,007 0

EXPENDITURE.	Amount. Rs. c.	Total. Rs. c.
District Hospitals.		
1. Diets: for estate labourers and "others" ...	122,570 46	
2. Medicines supplied from Civil Medical Stores ...	40,402 76	
3. Funeral expenses of estate labourers and "others" ...	2,760 56	
4. Salaries of District Medical Officers and allowances ...	116,363 46	
5. Departmental expenditure ...	5,143 0	
6. Maintenance and repairs to buildings	81,156 76	
7. Rents of outdoor dispensaries	9,577 99	
8. Transport of medicines, &c.	2,184 80	
9. Equipment	13,353 19	
10. Wages of attendants, &c. ...	27,968 4	
11. Contingencies ...	6,024 37	
12. Printing	2,746 62	
13. Nursing service ...	6,294 47	
14. Exchange compensation ...	2,342 10	
15. Salaries and allowances of apothecaries	24,592 58	
		463,481 16
Civil Hospitals.		
1. Diets: estate labourers ...	2,335 76	
2. (*a*) Medicines used by estate labourers in hospitals ...	4,606 35	
(*b*) Medicines used by estate labourers in dispensaries	877 80	
3. Funeral expenses of estate labourers	30 54	
		7,850 45
1. Value of medicines supplied to district dispensaries ...	29,813 52	
2. Value of medicines, &c., supplied to estate dispensaries ...	36,861 87	
		66,675 39
Total—Rs.	—	538,007 0

Table II.—Statement of Expenditure under the Medical Aid Ordinance (Estates Branch) during 1904.

Names of Hospitals and Dispensaries.	Number of Patients.	Number of Days the Patients stayed in Hospital.	Other than Estate Labourers.	Number of Days in Hospital.	Provisions and other Necessaries.				Equipment.	Rent.	Funeral Expenses.	Wages of Apothecaries, Attendants, &c.	Contingencies.	Medicines supplied from the Civil Medical Stores.	Total Expenditure.	Grand Total.
						Extra Articles of Diet.										
					Diets.	Stimulants.	Other Articles.	Total Provisions.								
					Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs
District Hospitals.																
Dikoya	420	10,468	255	3,684	7,827 4	—	111 89	7,938 93	1,130 30	—	300 0	1,296 0	382 80	2,381 16	13,429 19	
Lindula	602	11,147	193	2,947	7,860 20	35 26	322 4	8,217 50	1,083 94	—	373 42	1,796 29	492 90	2,563 95	14,528 0	
Kelebokka	276	7,065	145	1,892	2,869 47	8 66	131 32	3,009 45	537 41	—	120 0	935 50	223 54	1,118 34	5.944 24	
Uda Pussellawa ...	116	1,725	249	3,154	2,769 42	20 58	109 6	2,899 6	131 94	—	161 39	615 0	307 24	1,647 74	5,762 37	
Haputale	211	4,308	422	5,621	6,311 93	12 97	292 5	6,616 95	654 56	—	—	1,716 0	437 1	2,349 9	11,773 61	
Lunugala	240	6,116	312	4,862	3,113 89	—	135 28	3,249 17	344 76	—	144 22	930 0	126 96	2,276 93	7,072 4	
Karawanella	509	19,012	972	19,617	16,460 80	35 63	808 8	17,304 51	1,142 17	240 0	240 0	2,688 71	841 98	2,889 50	25,346 87	
Maskeliya	166	3,030	40	752	1,896 82	10 7	96 45	2,003 34	432 9	—	121 64	939 76	153 93	1,815 43	5,466 19	
Deltota	225	5,210	78	1,621	2,628 74	4 36	22 98	2,656 8	301 44	—	—	960 0	98 29	2,073 75	6,089 56	
Rakwana	263	6,566	655	8,571	6,097 53	50 75	560 22	6,708 50	786 93	—	143 50	1,009 4	276 11	2,095 53	11,019 61	
Balangoda	353	14,185	1,054	21,774	14,440 64	—	962 54	15,403 18	1,317 56	—	178 50	1,504 7	369 88	2,817 61	21,590 80	
Nawalapitiya	403	11,235	358	4,833	7,555 74	38 27	350 2	7,944 3	744 94	—	269 30	852 50	335 44	2,883 51	13,029 72	
Avisawella	610	16,857	575	9,147	7,535 33	8 83	291 33	7,835 49	884 29	480 0	302 85	1,530 0	412 60	2.372 5	13,817 28	
Neboda	659	13,460	135	2,260	5,534 16	17 91	57 66	5,609 73	584 85	—	80 74	1,289 67	172 36	1,799 66	9,537 1	
Teldeniya	191	4,606	299	4,312	3,593 68	43 76	196 26	4,193 70	507 27	—	—	1,086 0	130 70	2,205 13	8,122 89	
Deniyaya	204	6,257	228	2,439	3,975 64	131 96	340 95	4,448 55	849 10	—	137 50	908 22	245 49	950 93	7,539 79	
Ramboda	173	5,110	88	1,647	5,128 49	—	6 88	5,135 37	263 74	—	150 0	1,182 0	195 87	1,310 13	8,237 11	
Dimbula	271	4,186	95	1,455	4,398 77	16 0	213 72	4,628 49	240 60	—	17 50	1,200 0	217 84	1,773 46	8,077 89	
Maturata	111	3,029	321	5,084	4,697 21	36 64	177 58	4,911 43	675 95	—	—	771 53	338 83	1,686 49	8,384 23	
Pussellawa	124	2,721	138	1,436	1,817 44	—	39 56	1,857 0	381 78	—	20 0	750 0	64 81	1,392 37	4,465 96	
	6,127	156,293	6,612	107,108	116872 74	471 65	5,225 87	122,570 46	12,995 62	—	2,760 56	23,960 29	5,824 58	40,402 76	209234 27	
Civil and District Hospitals...	2,172	58,879	13,236	152,253	—	—	—	2,335 76	—	720 0	30 54	—	—	4,606 35	6,972 65	
Total ...	8,299	215,172	19,848	259,361	116872 74	471 65	5,225 87	124,906 22	12,995 62	720 0	2,791 10	23,960 29	5,824 58	45,009 11	216206 92	
District Dispensaries.																
Elkaduwa	—	—	—	—	—	—	—	—	18 57	600 0	—	120 0	9 19	1,434 33	2,182 9	
Madulsima	—	—	—	—	—	—	—	—	9 40	360 0	—	120 0	7 60	623 59	1,120 59	
Muppane	—	—	—	—	—	—	—	—	20 22	360 0	—	120 0	7 69	760 16	1,268 7	
Agrapatana	—	—	—	—	—	—	—	—	0 75	960 0	—	150 0	4 9	995 83	2,110 67	
Watawala	—	—	—	—	—	—	—	—	8 81	900 0	—	120 0	3 72	1,032 80	2,065 33	
Bogawautalawa ...	—	—	—	—	—	—	—	—	48 87	480 0	—	120 0	18 9	1,629 37	2,296 33	
Dolosbage	—	—	—	—	—	—	—	—	1 50	600 0	—	143 75	10 85	1,415 27	2,171 37	
Koslanda	—	—	—	—	—	—	—	—	10 8	480 0	—	120 0	6 35	851 16	1,467 59	
Haldummulla... ...	—	—	—	—	—	—	—	—	17 44	—	—	120 0	5 3	629 88	772 35	
Rattota	—	—	—	—	—	—	—	—	13 48	240 0	—	150 0	14 42	1,398 2	1,815 92	
Kotmale	—	—	—	—	—	—	—	—	45 34	630 0	—	120 0	12 39	1,099 9	1,906 82	
Galagedara	—	—	—	—	—	—	—	—	11 74	—	—	120 0	5 96	1,165 64	1,303 34	
Bandarawela	—	—	—	—	—	—	—	—	1 4	—	—	120 0	1 98	1,037 60	1,160 62	
Raugalla	—	—	—	—	—	—	—	—	8 19	—	—	120 0	3 92	1,056 62	1,188 73	
Passara	—	—	—	—	—	—	—	—	8 70	360 0	—	150 0	11 85	1,112 96	1,643 51	
Gammaduwa	—	—	—	—	—	—	—	—	2 99	—	—	120 0	5 57	1,150 36	1,278 92	
Watagoda	—	—	—	—	—	—	—	—	14 66	240 0	—	144 0	4 20	685 82	1,088 68	
Aranayaka	—	—	—	—	—	—	—	—	17 80	420 0	—	720 0	8 48	1,225 73	2,392 1	
Udugama	—	—	—	—	—	—	—	—	25 66	84 0	—	120 0	8 71	2,094 79	2,333 16	
Kadugannawa ...	—	—	—	—	—	—	—	—	1 50	240 0	—	120 0	4 91	1,219 77	1,586 18	
Elpitiya	—	—	—	—	—	—	—	—	22 15	—	—	120 0	4 60	1,216 27	1,363 2	
Pundalu-oya	—	—	—	—	—	—	—	—	5 24	420 0	—	120 0	8 1	553 56	1,106 81	
Kandy	—	—	—	—	—	—	—	—	—	239 99	—	—	—	1,793 15	2.033 14	
Kitulgala	—	—	—	—	—	—	—	—	7 50	480 0	—	120 0	2 46	939 42	1,549 38	
Nanu-oya	—	—	—	—	—	—	—	—	8 50	360 0	—	150 0	9 5	684 49	1,212 4	
Namunukula	—	—	—	—	—	—	—	—	19 99	80 0	—	120 0	9 93	748 32	978 24	
Wattegama	—	—	—	—	—	—	—	—	7 45	264 0	—	120 0	8 51	1,259 52	1,659 48	
Bulatkohupitiya ..	—	—	—	—	—	—	—	—	—	60 0	—	120 0	2 23	—	182 43	
	—	—	—	—	—	—	—	—	357 57	8,857 99	—	4,007 75	199 79	29,813 52	43.236 62	
Estate Dispensaries ...	—	—	—	—	—	—	—	—	—	—	—	—	—	36,861 87	36,861 87	
Civil Dispensaries ...	—	—	—	—	—	—	—	—	—	—	—	—	—	877 80	877 80	
Total ...	—	—	—	—	—	—	—	—	357 57	8,857 99	—	4,007 75	199 79	67,553 19	80,976 29	
Grand Total ...	8,299	215,172	19,848	259,361	116872 74	471 65	5,225 87	124,906 2	13,353 19	9,577 99	2,791 10	27,978 4	6,024 37	112562 30	297193 21	297,183

General.—Salaries and Allowances of Government Medical Officers (Personal Emoluments and other Charges) ...	116,363 46	
Exchange Compensation	2.342 10	
Nursing Service	6,294 47	
Salaries and Allowances of Apothecaries	24,592 58	240,823
Salaries of Extra Clerks	5,143 0	
Maintenance and Repairs to Buildings	81,156 76	
Transport of Medicines and other Miscellaneous Charges	2.184 80	
Printing	2.746 62	538,007

Table III.—List of Drugs, &c., supplied to Estate Dispensaries during the Year 1904.

Name of Estate.	District where situated.	Cost of Drugs supplied.		Name of Estate.	District where situated.	Cost of Drugs supplied.	
		Rs.	c.			Rs.	c.
Abbotsford, &c. ...	Nanu-oya ...	298	44	Mipitikanda ...	Yatiyantota ...	155	0
Agar's Land, &c. ...	Balangoda ...	112	68	Mocha ...	Maskeliya ...	475	56
Alton Group ...	Norwood ...	451	41	Mooloya, &c. ...	Kandy ...	454	64
Ambalamana, &c. ...	Deltota ...	458	18	Moray, &c. ...	Maskeliya ...	206	74
Attabage, &c. ...	Pussellawa ...	224	6	Mudamana, &c. ...	Kitulgala ...	158	6
Avington, &c. ...	Yatiyantota ...	80	0	Nahalma ...	Avisawella ...	265	0
Avisawella, &c. ...	Avisawella ...	443	0	Needwood ...	Haldummulla ...	201	26
Bambarabotuwa, &c....	Ratnapura ...	523	10	Nilambe ...	Deltota ...	162	28
Beverley, &c. ...	Morawak korale ...	481	90	North Matale, &c. ...	Matale ...	649	92
Cabragalla, &c. ...	Koslanda ...	335	56	Osborne, &c. ...	Hatton ...	342	92
Campion ...	Bogawantalawa ...	279	3	Pallegoda ...	Bentota ...	211	15
Chesterford ...	Veyangoda ...	357	44	Pallekele ...	Kandy ...	442	18
Clodagh ...	Matale ...	450	0	Panawatta ...	Yatiyantota ...	206	76
Clunes ...	Dehiowita ...	520	56	Pantiya ...	Neboda ...	533	82
Cocagalla, &c. ...	Lunugala ...	221	52	Panilkanda ...	Deniyaya ...	124	14
Concordia, &c. ...	Nuwara Eliya ...	492	40	Penrith, &c. ...	Avisawella ...	386	20
Condegalla, &c. ...	Ramboda ...	370	87	Pitakanda, &c. ...	Kurunegala ...	333	39
Daisy Valley ...	Kurunegala ...	100	0	Pitakanda Group ...	Matale ...	256	84
Degalessa, &c. ...	Karawanella ...	329	36	Polatagama ...	Karawanella ...	252	2
Delwita ...	Kurunegala ...	400	0	Queensberry, &c. ...	Kotmale ...	279	39
Delta, &c. ...	Pussellawa ...	414	52	Ragalla, &c. ...	Kandapola ...	511	81
Dewalakanda ...	Dehiowita ...	207	78	Rassagala, &c. ...	Balangoda ...	259	62
Drayton, &c. ...	Dimbula ...	293	52	Rayigama ...	Horana ...	250	0
Duckwari ...	Rangalla ...	335	0	Roeberry, &c. ...	Lunugala ...	193	20
Dunedin ...	Karawanella ...	344	40	Rondura Group ...	Kitulgala ...	268	98
Diyagama ...	Agrapatana ...	642	95	Rookwood Group ...	Hewaheta ...	177	74
East Holyrood ...	Dimbula ...	300	0	Sapumalkanda, &c. ...	Dehiowita ...	303	40
Eadella ...	Polgahawela ...	180	40	Sarnia, &c. ...	Badulla ...	387	36
Edarapola, &c. ...	Yatiyantota ...	193	80	Silvakanda ...	Deniyaya ...	200	0
Eila ...	do. ...	174	24	Spring Valley, &c. ...	Badulla ...	350	83
Elfindale, &c. ...	Watawala ...	412	10	Sunnycroft, &c. ...	Veyangoda ...	417	28
Ganepella ...	Karawanella ...	275	47	St. Leonard's, &c. ...	Nuwara Eliya ...	442	13
Galatura, &c. ...	Ratnapura ...	489	96	Tangakelli ...	Lindula ...	386	2
Gikiyanakanda ...	Neboda ...	375	60	Theresia, &c. ...	Bogawantalawa ...	286	50
Glassel, &c. ...	Dehiowita ...	373	68	Troy, &c. ...	Karawanella ...	401	90
Glenanore ...	Haputale ...	78	8	Udabage ...	Kitulgala ...	350	0
Glenlyon, &c. ...	Agrapatana ...	659	9	Unugalla, &c. ...	Badulla ...	415	48
Goorookele ...	Deltota ...	349	80	Uva ...	Badulla ...	318	50
Glen Alpin, &c. ...	Badulla ...	200	0	Ury, &c. ...	Passara ...	419	46
Halwatura ...	Panadure ...	550	0	Vellai-oya, &c. ...	Watawala ...	393	5
Halgolla, &c. ...	Yatiyantota ...	592	68	Venture Group ...	Norwood ...	354	72
Hauteville ...	Agrapatana ...	507	70	Vogan, &c. ...	Neboda ...	242	76
Havilland ...	Dolosbage ...	141	44	Waharaka, &c. ...	Kegalla ...	320	18
Hayes, &c. ...	Morawak korale ...	199	40	Warwick, &c. ...	Ambawela ...	407	22
Helbodde ...	Pussellawa ...	308	16	Watagoda ...	Watagoda ...	459	64
High Forest, &c. ...	Maturata ...	275	34	Waverly ...	Agrapatana ...	467	2
Katooloya, ...	Madulkele ...	192	36	We-oya, &c. ...	Yatiyantota ...	216	77
Katugastota ...	Katugastota ...	123	15	Westhall, &c. ...	Kotmale ...	364	24
Kelani ...	Yatiyantota ...	324	23	Weywelhena ...	Badulla ...	335	78
Kepitiyagala ...	Matale ...	21	78	Yataderiya, &c. ...	Kegalla ...	416	5
Lavant, &c. ...	Karawanella ...	345	43	Yatawatta, &c. ...	Matale ...	398	22
Laxapana, &c. ...	Maskeliya ...	530	10	Yogama, &c. ...	Dehiowita ...	393	38
Lebanon, &c. ...	Madulkele ...	552	89	Yoxford, &c. ...	Watagoda ...	295	14
Lethenty ...	Hatton ...	500	0				
Mahadova, &c. ...	Lunugala ...	329	50		Total --	Rs. 36,861	87
Medacombra ...	Watagoda ...	636	16				

Table IV.—Statement showing the different Centres where Outbreaks of Cholera occurred during 1904, giving the Date and Duration of each Outbreak, the Number of Cases, and classifying them into different Races.

Name of Centre.	Number of Cases and Deaths.		Date of First Appearance.	Date of Last Case.	Of these													
					Sinhalese.		Moors.		Tamils.		Immigrants.		Malays.		Others.		Total.	
	Cases.	Deaths.			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
WESTERN PROVINCE.			1904.	1904.														
Infectious Diseases Hospital, Kanatta ...	7	4	Nov. 3	Nov. 5	—	—	—	—	—	—	—	—	—	—	7	4	7	4
Total ...	7	4			—	—	—	—	—	—	—	—	—	—	7	4	7	4

These cases were from ss. Torridge, and were said to be infected at Bassein.

Table V.—Return of Cases of Smallpox, Modified Smallpox, and Chickenpox that occurred in Ceylon during 1904, and which were reported to the Civil Medical Department.

Stations.	Total treated.										Total died.									
	Smallpox.				Modified Smallpox.						Smallpox.				Modified Smallpox.					
	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.
Western Province.																				
Infectious Diseases Hospital, Kanatta	5	1	4	—	—	—	—	—	478	483	1	1	—	—	—	—	—	—	—	1
Panadure ...	—	—	—	—	—	—	—	—	137	137	—	—	—	—	—	—	—	—	—	—
Negombo ...	—	—	—	—	—	—	—	—	16	16	—	—	—	—	—	—	—	—	—	—
Ragama ...	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Hanwella ...	—	—	—	—	—	—	—	—	58	58	—	—	—	—	—	—	—	—	—	—
Henaratgoda ...	—	—	—	—	—	—	—	—	110	110	—	—	—	—	—	—	—	—	—	—
Veyangoda ..	—	—	—	—	—	—	—	—	32	32	—	—	—	—	—	—	—	—	—	—
Mirigama ...	—	—	—	—	—	—	—	—	14	14	—	—	—	—	—	—	—	—	—	—
Kaduwela ...	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—	—
Aturugiriya ...	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
Kadawata ...	—	—	—	—	—	—	—	—	91	91	—	—	—	—	—	—	—	—	—	—
Kelaniya ...	—	—	—	—	—	—	—	—	11	11	—	—	—	—	—	—	—	—	—	—
Halpe ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Moratuwa ...	—	—	—	—	—	—	—	—	19	19	—	—	—	—	—	—	—	—	—	—
Kesbewa ...	—	—	—	—	—	—	—	—	99	99	—	—	—	—	—	—	—	—	—	—
Minuwangoda ...	—	—	—	—	—	—	—	—	145	145	—	—	—	—	—	—	—	—	—	—
Divulapitiya ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Ja-ela ...	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—	—
Beruwala ...	—	—	—	—	—	—	—	—	20	20	—	—	—	—	—	—	—	—	—	—
Convict Establishment ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Welikada Jail ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Total ...	5	1	4	—	—	—	—	—	1,300	1,305	1	1	—	—	—	—	—	—	—	1
Central Province.																				
Agrapatana ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Bogawantalawa ...	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—	—	—	—	—
Dambulla ...	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Dikoya ...	1	—	1	—	—	—	—	—	19	20	—	—	—	—	—	—	—	—	—	—
Dolosbage ...	—	—	—	—	—	—	—	—	8	8	—	—	—	—	—	—	—	—	—	—
Elkaduwa ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Galagedara ...	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—	—
Galawela ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Gampola ...	—	—	—	—	—	—	—	—	75	75	—	—	—	—	—	—	—	—	—	—
Hanguranketa ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Kadugannawa ...	—	—	—	—	—	—	—	—	31	31	—	—	—	—	—	—	—	—	—	—
Kandy ...	—	—	—	—	—	—	—	—	584	584	—	—	—	—	—	—	—	—	1	1
Kongahawela ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Lindula ..	—	—	—	—	1	—	1	—	32	33	—	—	—	—	—	—	—	—	—	—
Madugoda ...	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Madulkele ...	—	—	—	—	—	—	—	—	8	8	—	—	—	—	—	—	—	—	—	—
Maskeliya ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Matale ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Maturata ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Mausahiriya ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Nalanda ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Nawalapitiya ...	—	—	—	—	—	—	—	—	45	45	—	—	—	—	—	—	—	—	—	—
Nuwara Eliya ...	—	—	—	—	—	—	—	—	14	14	—	—	—	—	—	—	—	—	—	—
Pussellawa ...	—	—	—	—	—	—	—	—	33	33	—	—	—	—	—	—	—	—	—	—
Rattota ...	—	—	—	—	—	—	—	—	11	11	—	—	—	—	—	—	—	—	—	—
Teldeniya ...	—	—	—	—	—	—	—	—	172	172	—	—	—	—	—	—	—	—	—	—
Uda Pussellawa ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Watagoda ...	—	—	—	—	—	—	—	—	12	12	—	—	—	—	—	—	—	—	—	—
Watawala ...	1	1	—	—	—	—	—	—	14	15	—	—	—	—	—	—	—	—	—	—
Total ...	2	1	1	—	1	—	1	—	1,160	1,163	—	—	—	—	—	—	—	—	1	1
Northern Province.																				
Karaitivu West ...	1	—	1	—	—	—	—	—	—	1	1	—	1	—	—	—	—	—	—	1
Mannitalai ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Vannarponnai South-West ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Jaffna town ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Chunakam ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Batticotta ...	—	—	—	—	—	—	—	—	15	15	—	—	—	—	—	—	—	—	—	—
Mulai ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Arali South ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Navaly ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Arali West ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Sanguvaly ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Mathagal ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—

Table V.—*continued.*

Station.	Total treated.										Total died.									
	Smallpox.				Modified Smallpox.						Smallpox.				Modified Smallpox.					
	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated	Chickenpox.	Total.
Northern Province—contd.																				
Valanai East ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Kayts East ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Valanai West ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Suruvil ...	—	—	—	—	—	—	—	—	8	8	—	—	—	—	—	—	—	—	—	—
Kayts West ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Karampan ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Achchuvaly ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Copay North ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Alaveddi ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Kurumbaikuddi ...	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	—
Karavetti North .	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Valvettiturai ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Tondaimannar ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Nainativu ...	—	—	—	—	—	—	—	—	6	6	—	—	—	—	—	—	—	—	—	—
Vavuniya town ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Total ...	1	—	1	—	—	—	—	—	74	75	1	—	1	—	—	—	—	—	—	1
Southern Province.																				
Udugama ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Matara ...	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—	—	—
Meetiagoda ...	—	—	—	—	—	—	—	—	17	17	—	—	—	—	—	—	—	—	—	—
Batapola ...	—	—	—	—	—	—	—	—	6	6	—	—	—	—	—	—	—	—	—	—
Nawadagala ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Hikkaduwa ...	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Dodanduwa ...	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
Hakmana ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Kottagoda ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Diviture ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Ganegama North ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Ganegama South ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Baddegama ...	—	—	—	—	—	—	—	—	8	8	—	—	—	—	—	—	—	—	—	—
Lelwala ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Karagoda ...	—	—	—	—	—	—	—	—	15	15	—	—	—	—	—	—	—	—	—	—
Heegastra ...	—	—	—	—	—	—	—	—	—	–	—	—	—	—	—	—	—	—	—	—
Kostiagoda ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Kombala ...	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—	—	—	—	—
Bentota ...	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
Galle ...	—	—	—	—	—	—	—	—	29	29	—	—	—	—	—	—	—	—	—	—
Katukurunda ...	—	—	—	—	—	—	—	—	14	14	—	—	—	—	—	—	—	—	—	—
Ambalantota ...	—	—	—	—	—	—	—	—	16	16	—	—	—	—	—	—	—	—	—	—
Weligama ...	—	—	—	—	—	—	—	—	15	15	—	—	—	—	—	—	—	—	—	—
Kirama ...	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—	—	—	—	—
Balapitiya ...	—	—	—	—	—	—	—	—	176	176	—	—	—	—	—	—	—	—	—	—
Total ...	—	—	—	—	—	—	—	—	362	362	—	—	—	—	—	—	—	—	—	—
Eastern Province.																				
Maha-oya Hospital	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Kattankudy (Ettukal) ...	1	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Toppur ...	—	—	—	—	—	—	—	—	82	82	—	—	—	—	—	—	—	—	—	—
Total ...	1	—	1	—	—	—	—	—	83	84	—	—	—	—	—	—	—	—	—	—
North-Western Province.																				
Kurunegala ...	—	—	—	—	—	—	—	—	19	19	—	—	—	—	—	—	—	—	—	—
Puttalam ...	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
Marawila ..	—	—	—	—	—	—	—	—	27	27	—	—	—	—	—	—	—	—	—	—
Dodangaslanda ...	—	—	—	—	—	—	—	—	22	22	—	—	—	—	—	—	—	—	—	—
Narammala ...	—	—	—	—	—	—	—	—	7	7	—	—	—	—	—	—	—	—	—	—
Makandura ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Dankotuwa ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Total ...	—	—	—	—	—	—	—	—	91	91	—	—	—	—	—	—	—	—	—	—

Table V.—*continued.*

Station.	Total treated.										Total died									
	Smallpox.				Modified Smallpox.						Smallpox.				Modified Smallpox.					
	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Number of Cases.	Unvaccinated.	Vaccinated.	Re-vaccinated.	Chickenpox.	Total.
North-Central Province.																				
Anuradhapura ...	—	—	—	—	—	—	—	—	6	6	—	—	—	—	—	—	—	—	—	—
Mihintale ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Total ...	—	—	—	—	—	—	—	—	7	7	—	—	—	—	—	—	—	—	—	—
Province of Sabaragamuwa.																				
Kegalla ...	—	—	—	—	—	—	—	—	44	44	—	—	—	—	—	—	—	—	—	—
Ratnapura ...	—	—	—	—	—	—	—	—	11	11	—	—	—	—	—	—	—	—	—	—
Balangoda ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Karawanella ...	—	—	—	—	—	—	—	—	7	7	—	—	—	—	—	—	—	—	—	—
Kolonna ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Parakaduwa ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Tembiliyane ...	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—
Pelmadulla ...	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Kiri-ella ...	—	—	—	—	—	—	—	—	12	12	—	—	—	—	—	—	—	—	—	—
Aranayaka ...	—	—	—	—	—	—	—	—	44	44	—	—	—	—	—	—	—	—	—	—
Godakawela ...	—	—	—	—	—	—	—	—	19	19	—	—	—	—	—	—	—	—	—	—
Total ...	—	—	—	—	—	—	—	—	147	147	—	—	—	—	—	—	—	—	—	—
Grand Total ...	9	2	7	—	1	—	1	—	3,224	3,234	2	1	1	—	—	—	—	—	1	3

Table VI.—Statement showing Particulars of Vaccination in the Island during 1904.

Province.	Primary Vaccination.							Re-vaccination.				Percentage of Successful to Total inspected.	
	Age.			Results.				Results.					
	Infants.	Children.	Adults.	Successful.	Unsuccessful.	Unknown.	Total No. vaccinated.	Successful.	Unsuccessful.	Unknown.	Total No. vaccinated.	Primary Vaccination.	Re-vaccination.
Western	2,932	32,264	3.902	35,452	1,547	2.099	39.098	3,052	842	767	4,661	95·80	78·37
Central	1.779	9,337	341	9,038	1,535	884	11,457	6	2	3	11	78·88	53·60
Northern	630	4,830	69	4,122	1,148	259	5,529	110	150	19	279	65·74	42·30
Southern	851	15,727	414	14,843	1,445	704	16,992	—	—	—	—	91·13	—
Eastern	916	5,017	330	4,889	1,181	193	6,263	73	—	19	92	80·54	100·00
North-Western ...	281	12,031	214	11,100	525	901	12,526	—	—	—	—	99·89	—
North-Central ...	90	4,027	92	3,175	907	127	4,209	—	—	—	—	77·78	—
Uva	1,134	2,122	45	3,041	58	202	3,301	—	—	—	—	98·12	—
Sabaragamuwa ...	799	7,452	36	6,840	424	1,023	8,287	—	—	—	—	94·19	—
Total ...	9,412	92,807	5,443	92.500	8,770	6,392	107662	3,241	994	808	5,043	91·33	76·51
Estate Vaccinators ...	1,635	9.609	4.606	13,629	1,319	902	15,850	205	114	—	349	91·17	58·73
In District Outdoor Dispensaries	688	2.878	21	2,928	483	176	3,587	—	—	—	—	85·83	—
In Civil Outdoor Dispensaries...	3,255	9,246	106	9,827	2.374	406	12,607	—	—	—	—	80·54	—
Grand Total ...	14,990	114540	10,176	118884	12.946	7,876	139706	3.446	1138	808	5.392	90·17	—
In 1903 ...	1,903	133080	11.545	126538	11.008	8,882	146428	3,013	799	698	4.510	91·99	79·03

Table VII.—Arrivals of Steamers, Sailing Ships, and Native Craft, with Native Traders and Immigrant Coolies, in the Port of Colombo, from January 1 to December 31, 1904.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Steamers	212	231	251	244	237	235	216	236	218	216	231	231	2,758
Native Craft ...	49	50	53	30	35	16	41	33	31	38	37	47	460
Traders.													
Men	811	871	1,327	2,713	6,610	5,869	4,842	2,981	3,201	3,078	2,388	4,071	38,762
Women	217	253	423	870	2,108	2,057	1,709	1,076	1,107	983	706	1,175	12,684
Children	124	139	211	453	1,237	1,166	1,034	489	522	503	338	645	6,861
Infants	45	68	105	214	575	503	455	218	253	259	163	309	3,167
Total ...	1,197	1,331	2,066	4,250	10,530	9,595	8,040	4,764	5,083	4,823	3,595	6,200	61,474
Coolies.													
Men	4,385	3,656	4,202	4,226	4,363	5,845	6,218	5,426	6,356	6,141	4,969	5,486	61,273
Women	282	259	310	424	400	636	465	403	567	492	328	433	4,999
Children	272	253	296	292	258	402	375	354	397	372	234	292	3,797
Infants	79	50	62	88	92	174	118	91	134	143	96	101	1,228
Total ...	5,018	4,218	4,870	5,030	5,113	7,057	7,176	6,274	7,454	7,148	5,627	6,312	71,297
Vessels placed in quarantine	36	44	52	36	36	44	47	40	40	48	53	52	528
Number of Cases of Small-pox sent to Hospital ...	—	—	—	2	—	—	—	1	—	—	—	1	4
Number of Cases of Small-pox isolated on Board ...	—	—	—	—	—	—	—	—	—	—	—	—	—
Number of Cases of Chicken-pox sent to Hospital ...	—	1	—	—	—	—	—	—	—	1	—	—	2
Number of Cases of Chicken-pox isolated on Board ...	—	—	—	—	—	—	—	—	—	—	—	—	—
Number of Cases of Measles sent to Hospital ...	1	1	—	1	—	—	—	—	—	—	—	1	4
Number of Cases of Measles isolated on Board ...	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera.													
Number sent to Hospital ...	—	1	—	—	—	—	—	—	—	—	7	—	8
Number died on Board ...	—	—	—	—	—	—	—	—	—	—	1	—	1
Number remaining on Board	—	—	—	—	—	—	—	—	—	—	—	—	—
Fees.													
Dr. G. J. Woutersz ...	446·25	399·0	553·0	539·0	36·75	—	—	—	—	—	—	—	1,973·50
Dr. H. Bawa ...	—	—	—	—	399·0	362·25	294·0	435·75	393·75	330·75	388·50	378·0	1,982·0
Dr. G. W. R. Fernando ...	223·62½	199·50	276·50	269·50	218·37½	181·12½	147·0	217·87½	196·87½	165·37½	199·25	189·0	2,484·0
Dr. H. P. Joseph ...	223·62½	199·50	63·0	63·0	218·37½	181·12½	147·0	217·87½	196·87½	165·37½	199·25	189·0	1,964·0

For Tables VIII. and IX. see the Ceylon Blue Book, 1904, pages AA 37 and AA 46, Nosological Return and Return separating the Malabars into those sent in by the Police, &c.

Table X.—Return of Lepers treated in the Hospitals and Outdoor Dispensaries in the Island during 1904, excepting those treated in the Leper Asylum at Hendala and the Leper Wards at Kalmunai Hospital.

Institution.	Number treated.
Western Province.	
Civil Hospital, Colombo ...	1
Female Outdoor Dispensary, Maradana, and Branch Hospital ...	10
Neboda Hospital	1
Grenier Eye Infirmary ...	1
Convict Hospital, Borella ...	6
Mutwal Dispensary	1
Kesbewa Dispensary	2
Kalutara Hospital and Dispensary ...	7
	29
Central Province.	
Civil Hospital, Kandy	2
Do. Nuwara Eliya ...	1
Do. Katugastota ...	3
Do. Gampola ...	1
Jail Hospital, Kandy	1
Outdoor Dispensary, Kandy ...	1
District Hospital, Dikoya ...	5
Do. Nawalapitiya ...	2
Do. Pussellawa ...	2
Outdoor Dispensary, Ramboda ...	2
Do. Kelebokka ...	1
Do. Galagedara ...	1
Do. Rangalla ...	1
Do. Bogawantalawa ...	1
	24
Northern Province.	
Outdoor Dispensary, Kankesanturai ...	1
Point Pedro No. 1 Dispensary ...	3
	4

Institution.	Number treated.
Southern Province.	
Civil Hospital, Matara	2
Outdoor Dispensary, Galle ...	14
Civil Hospital, Hambantota ...	1
	17
Eastern Province.	
Trincomalee Hospital and Dispensary...	3
North-Western Province.	
Kurunegala Hospital	2
North-Central Province.	
Anuradhapura Hospital	5
Province of Uva.	
Badulla Hospital	1
Haputale Hospital	4
	5
Province of Sabaragamuwa.	
Karawanella Hospital	8
Ratnapura Hospital	4
Balangoda Hospital	5
Kegalla Hospital	1
Ellagawa Hospital	1
Total ...	19
Grand Total ...	108

Table XI.—Cost of Establishment, 1904.

	Amount. Rs. c.	Total. Rs. c.
Personal Emoluments	301,656 18	
Exchange Compensation	12,517 49	
Allowances.		
House allowance to Surgeon in charge, General Hospital	840 0	
House allowance to Medical Officer, Lady Havelock Hospital	600 0	
House allowance to Assistant Medical Storekeeper	150 0	
House allowance to Overseer of Packers, Civil Medical Stores	240 0	
Medical College.		
Registrar, Medical College	6,426 65	
Allowance to Lecturers	12,857 40	
Clerk for College	600 0	
Librarian	240 0	
Assistant in Anatomy and Biology	360 0	
Scholarship for Female Students	233 31	
Pay of head servant	240 0	
Pay of carpenter and cooly	330 0	
Laboratory Assistants	1,565 4	
Servant, Medical Museum	150 0	
Attendant for female dissecting room	180 0	
		339,186 7
Other Charges.		
Remuneration to private medical practitioners	3,615 38	
Bookbinding, office furniture, and petty expenses	1,466 87	
Boatmen for Health Officer, Colombo	1,178 10	
Animal Vaccination, Central Depôt	5,654 18	
Do. Southern Province	—	
Subscription to Colonial Medical Library	500 0	
Appliances to illustrate lectures	1,065 44	
Prize medals, Medical College	90 0	
Purchase of glass almirahs, &c., for the Medical College	183 79	
Medical College Library	492 54	
Examiners' fees (Preliminary Examination)	350 0	
Upkeep of Laboratories	1,032 19	
Stationery	3,963 18	
Rent of Colonial Surgeon's Office, Jaffna	150 0	
Do. Kurunegala	300 0	
Rent of Temple House	1.321 0	
Rent of Medical Officer's quarters, Chilaw	240 0	
Rent of Vaccine Stations, Colombo	2,435 0	
Horse allowance to Principal Civil Medical Officer	561 13	
Horse allowance to Colonial Surgeon, Western Province	420 0	
Carriage allowance to Chief Inspector of Vaccination, Western Province	420 0	
Horse allowance to Medical Officer (Police)	420 0	
The relieving of Medical Officers at solitary stations	1,070 88	
Extra clerical assistance for work in connection with tenders	140 0	
Travelling expenses of Medical Officers, &c., General	29,888 1	
Travelling expenses of Medical Officers, &c., in the Provinces	19,007 6	
		75,964 75
Hospitals and Dispensaries	—	732,754 93
General.		
Purchase of medicines and instruments	179.437 59	
Do. in India	516 63	
Do. in Ceylon	8.128 41	
Transport of medicines	11,720 60	
Articles for Civil Medical Stores	1,665 52	
Repairing instruments	44 25	
Contingencies	532 3	
Petty expenses	63 0	
		202,108 3
Harbour Service.		
Harbour service	—	800 0
Plague precautions	—	16,176 98
Grand Total	—	1,366,990 76

Table XII.—Statement of Expenditure of the several Government Hospitals, Asylums, &c., for 1904.

Hospitals, &c.	Number of Patients treated.	Average Daily Sick.	Diets.	Extra Articles of Diet.		Total.	Equipment.	Funeral Expenses.	Wages and Allowances of Nurses.	Wages of Dispensers, Attendants, &c.	Contingencies.	Total.
				Stimulants.	Other Articles.							
I.—ASYLUMS.			Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Lunatic Asylum, Jawatta	—	—	57,302 28	194 94	5,206 30	62,703 52	5,366 85	78 0	—	11,919 16	3,742 19	83,809 72
Leper Asylum, Hendala	—	—	41,433 43	231 92	1,327 53	42,992 88	4,007 96	86 22	—	4,815 88	2,824 77	54,727 71
Total ...	—	—	98,735 71	426 86	6,533 83	105,696 40	9,374 81	164 22	—	16,735 4	6,566 96	138,537 43
II.—De Soysa Lying-in Home	—	—	2,720 41	50 65	52 65	2,823 71	678 1	5 95	—	1,264 44	1,252 18	6,024 29
III.—CIVIL HOSPITALS.												
Colombo	—	—	46,862 32	3,253 86	8,571 49	58,687 67	6,200 42	694 90	—	15,895 74	9,384 59	90,863 32
Seamen's, Planters', and Passengers' Wards	—	—	11,340 73	1,772 64	5,350 58	18,463 95	2,667 57	—	—	4,706 44	3,856 8	29,694 4
Lady Havelock Hospital	—	—	5,143 48	138 75	1,030 17	6,312 40	991 22	272 90	—	3,764 0	1,461 34	12,801 86
Negombo	—	—	3,730 36	17 27	119 16	3,866 79	461 84	192 10	—	1,092 0	429 45	6,042 18
Kalutara	—	—	4,020 54	48 35	141 34	4,210 23	670 84	159 42	—	1,044 96	388 94	6,474 39
Panadure	—	—	2,233 85	—	30 86	2,264 71	194 79	160 98	—	586 78	114 85	3,322 11
Kandy	—	—	20,659 14	634 82	2,340 91	23,634 87	1,368 91	1,175 95	—	4,024 1	985 11	31,188 85
Katugastota	—	—	902 90	—	—	902 90	51 39	8 50	—	366 0	46 96	1,375 75
Gampola	—	—	4,452 29	24 20	400 16	4,876 65	701 38	257 46	—	984 96	150 6	6,970 51
Nuwara Eliya	—	—	7,206 66	269 76	895 32	8,371 74	1,236 45	72 0	—	1,193 0	871 4	11,744 23
Matale	—	—	6,708 28	28 78	1,495 16	8,232 22	405 81	253 81	—	1,166 10	641 91	10,699 85
Mulhalkele	—	—	946 84	7 47	20 67	974 98	10 97	14 0	—	328 12	55 8	1,383 15
Mullaittivu	—	—	2,458 98	6 11	98 15	2,563 24	223 97	16 0	—	658 0	142 82	3,604 3
Vavuniya	—	—	2,156 13	18 81	42 81	2,217 75	147 95	87 0	—	480 0	62 4	2,994 74
Point Pedro	—	—	3,038 33	117 87	356 81	3,513 1	384 94	16 50	—	456 0	185 25	4,555 70
Mantota	—	—	1,248 66	39 62	110 67	1,398 95	123 5	105 50	—	624 30	158 35	2,410 15
Galle	—	—	8,073 0	262 32	684 89	9,020 21	1,471 20	414 35	—	2,977 59	983 61	14,866 96
Balapitiya	—	—	2,131 29	2 50	98 91	2,232 70	319 19	150 0	—	405 96	122 37	3,230 22
Matara	—	—	4,172 76	5 35	72 73	4,250 84	613 20	49 50	—	672 0	451 73	6,037 27
Tangalla	—	—	780 44	38 70	82 66	901 80	262 92	45 0	—	492 0	213 33	1,915 5
Hambantota	—	—	1,272 36	0 18	217 5	1,489 59	150 58	58 0	—	555 0	242 13	2,495 30
Batticaloa	—	—	2,352 59	13 0	189 31	2,554 90	316 66	57 30	—	1,083 0	247 37	4,259 23
Trincomalee	—	—	1,882 7	—	74 72	1,956 79	320 74	38 50	—	552 0	80 29	2,948 32
Kalmunai	—	—	3,197 69	23 75	355 6	3,576 50	218 96	20 0	—	1,050 66	449 23	5,315 35
Kurunegala	—	—	7,473 45	426 73	1,424 27	9,324 45	574 50	352 28	—	1,939 0	625 78	12,816 1
Puttalam	—	—	2,060 80	0 62	40 54	2,101 96	266 62	152 70	—	690 50	146 59	3,358 37
Marawila	—	—	3,321 11	19 73	46 93	3,387 77	445 21	170 0	—	775 25	236 46	5,014 69
Chilaw	—	—	1,422 93	—	8 27	1,431 20	120 38	73 50	—	360 0	125 57	2,110 65
Anuradhapura	—	—	4,394 41	—	223 62	4,618 3	603 79	84 11	—	1,020 0	158 89	6,484 82
Badulla	—	—	10,083 42	110 19	895 96	11,089 57	757 17	299 0	—	2,481 14	847 34	15,474 22
Ratnapura	—	—	6,257 45	39 86	149 61	6,446 92	571 74	151 79	—	917 10	238 80	8,326 35
Kegalla	—	—	6,429 87	18 63	236 30	6,684 80	613 68	300 0	—	1,053 87	95 61	8,747 96
Total ...	—	—	188,415 13	7,339 87	25,805 9	221,560 9	23,468 4	5,903 5	—	54,395 48	24,198 97	329,525 63

IV.—FIELD OR PARANGI HOSPITALS.												
Dandugama	—	—	3,065 22	—	39 6	3,104 28	166 13	76 0	—	600 0	131 49	4,077 90
Nikaweratiya...	—	—	3,005 54	4 95	41 57	3,052 6	194 98	80 67	—	435 49	169 45	3,932 65
Alutnuwara	—	—	1,776 83	—	30 7	1,806 90	207 82	115 81	—	1,555 0	195 69	3,881 22
Medagama	—	—	3,059 15	6 60	69 96	3,135 71	376 66	120 0	—	925 0	166 6	4,723 43
Buttala	—	—	3,535 51	5 44	51 14	3,592 9	221 77	117 9	—	1,055 78	74 37	5,061 10
Kolonna	—	—	4,213 45	15 32	34 42	4,263 19	318 10	33 0	—	1,039 92	172 50	5,826 71
Godakawela	—	—	304 16	—	4 29	308 45	8 68	0 80	—	173 35	25 23	516 51
Mahaoya	—	—	1,213 3	—	37 13	1,250 16	178 10	111 50	—	847 50	96 23	2,483 49
Total ...	—	—	20,172 89	32 31	307 64	20,512 84	1,672 24	654 87	—	6,632 4	1,031 2	30,503 1
V.—IMMIGRANT HOSPITALS.												
Dambulla	—	—	4,342 19	48 27	82 62	4,473 8	357 59	20 75	—	570 0	148 81	5,570 23
Mannar	—	—	1,672 49	15 67	165 53	1,853 69	302 67	44 50	—	789 55	267 19	3,257 60
Puliyadi-irrakkam	—	—	—	—	—	—	—	—	—	267 46	—	267 46
Pesalai	—	—	—	—	—	—	2 30	—	—	166 0	0 15	168 45
Mihintale	—	—	1,391 85	—	16 58	1,408 43	246 90	40 0	—	642 0	413 43	2,750 76
Total ...	—	—	7,406 53	63 94	264 73	7,735 20	909 46	105 25	—	2,435 1	829 58	12,014 50
VI.—Nursing Service	—	—	—	—	—	—	—	—	50,179 37	—	—	50,179 37
VII.—Branch Hospital, Borella	—	—	1,302 44	6 15	85 21	1,393 80	239 74	10 20	—	408 0	119 89	2,171 63
VIII.—House of Observation, Galle	—	—	218 55	—	5 37	223 92	47 28	—	—	613 0	188 63	1,072 83
IX.—Infectious Diseases Hospital, Kanatta... ...	—	—	2,403 59	30 96	201 6	2,635 61	465 49	18 85	—	1,852 58	330 95	5,303 48
X.—Salaries and Allowances of Apothecaries ...	—	—	—	—	—	—	—	—	—	85,967 38	—	85,967 38
Total ...	—	—	3,924 58	37 11	291 64	4,253 33	752 51	29 5	50,179 37	88,840 96	639 47	144,694 69
Grand Total ...	—	—	321,375 25	7,950 74	33,255 58	362,581 57	36,855 7	6,862 39	50,179 37	170,302 97	34,518 18	661,299 55